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Overflow:

The (Un)Governability of Sea, Sediment, and Heavy Mineral Sands in Senegal

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Geography

by

Ashley Marie Fent

2018

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ABSTRACT OF THE DISSERTATION

Overflow:

The (Un)Governability of Sea, Sediment, and Heavy Mineral Sands in Senegal

by

Ashley Marie Fent

Doctor of Philosophy in Geography

University of California, Los Angeles, 2018

Professor Eric Stewart Sheppard, Chair

This dissertation explores how the uncontrollability of the social and material basis of life enters into mining negotiations, and how communities challenge extractive projects. I argue that the Niafarang Project, a proposed heavy mineral sands mine in the Casamance region of Senegal, has been alternately presented as knowable and governable, or unknowable and ungovernable, resulting in what Michel Callon and others have termed "overflow"—the excesses produced through attempts to bound and separate economic, ecological, or political objects, and how these excesses push back. In this case, overflows create the need to constantly engage in negotiation about the terms and conditions of extractive development and its alternatives.

Based on fourteen months of ethnographic fieldwork, I examine various strategies used in the mining negotiations, focusing in particular on how overflows become a source of action in environmental impact assessment, environmental knowledges, the role of popular participation,

enactments of “dialogue” with the state, and the mining company’s securing of a “social license to operate.” In conversation with anthropological and geographical literatures on mining, this dissertation contributes an on-the-ground and processual examination of how mining negotiations proceed, through bureaucratically- and legally-sanctioned means, as well as through cultural, geographical, and extra-legal strategies. Theoretically, it contributes to studies of knowledge production, activism, and ambiguity, and their roles and complications in how extractive development is governed in the Global South.

The dissertation of Ashley Marie Fent is approved.

Lieba Bernice Faier

Judith A. Carney

Hannah C. Appel

Akhil Gupta

Eric Stewart Sheppard, Chair

University of California, Los Angeles

2018

For Patt Fent (1953-2012),

who taught me the value of loving my work and embracing challenges

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ABBREVIATIONS AND ACRONYMS

AOF	French West Africa (*Afrique Occidentale Française*)
The Committee	The Committee Against Zircon Mining in Casamance (*Comité contre l'exploitation de zircon en Casamance*)
CR	Rural Community (*Communauté Rurale*)
CSR	Corporate Social Responsibility
CFA	*Communauté Financière Africaine* West African franc linked in a set exchange rate to the euro
DEEC	Department of the Environment and Classified Establishments, under Ministry of the Environment and Sustainable Development (*Direction de l'Environnement et des Établissements Classés*)
DMG	Department of Mines and Geology, under Ministry of Industry and Mines (*Direction des Mines et de la Géologie*)
EEA	In-depth Environmental Evaluation (*Évaluation environnementale approfondie*)
EIA	Environmental Impact Assessment
EIES	Environmental and Social Impact Study (*Étude d'impact environnemental et social*)
HMS	Heavy mineral sands (zircon and titanium sands)
MEDD	Ministry of the Environment and Sustainable Development (*Ministère de l'Environnement et du Développement Durable*)
MFDC	Movement of Democratic Forces of Casamance (*Mouvement des Forces Démocratiques de la Casamance*)
MoU	Memorandum of Understanding
MPA	Marine Protected Area
PAP	Project Affected People (*Personnes affectées par la réalisation du project*)
PCR	President of the Rural Community (*Président de la Communauté Rurale*)
PSE	Emerging Senegal Program (*Plan Sénégal Émergent*)
VGT	Vetiver Grass Technology

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My utmost gratitude goes to Eric Sheppard, for his meticulous reading of numerous drafts, his tireless encouragement, and his thoughtful and critical engagement with a wide range of scholarship. I look to him as a model advisor, teacher, and scholar. I also consider Helga Leitner a mentor, as she has helped me think through how to interview people in positions of power, commiserated with me about never feeling quite ready to submit always-imperfect drafts, and raised during many talks the very important question: "So what?" Lieba Faier has contributed comments on multiple proposals and drafts, as well as much-needed advice about taking the time to learn from the field; I thank her for pushing me to find a research "puzzle" and for encouraging me when I most needed it. Judy Carney has long been a source of admiration and respect, both for her regional expertise and her path-breaking work in feminist political ecology and innovative approaches to historical work. I have learned much from our collaborations and conversations over

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VITA

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Languages

English (*native*), French (*full professional proficiency*), Wolof (*full professional proficiency*), Mandinka (*conversational*), Jola-Fogny & Jola-Karonne (*conversational*), Portuguese (*conversational*)

Introduction: Governing Extractive Development and its Overflows

In February 2014, President Macky Sall unveiled the Emerging Senegal Program (*Plan Sénégal Emergent*, PSE) that, among other development goals, envisioned a stronger role for the mining sector in the Senegalese economy, and, in particular, "the accelerated mining of zircon reserves" (République du Sénégal 2014, 61; translation mine).[1] One of these pending investments was the Niafarang Project, a proposed heavy mineral sands (HMS) mine. Project managers first arrived in 2004 in Niafarang, a small coastal village of 250 people located just south of the Gambian border with Senegal's southern region, known historically and colloquially as Casamance. According to residents, geologists working for the Niafarang Project, then owned by the Carnegie Corporation, collected samples of sand along the dune separating the mangroves and the sea from the low-lying rice fields and the village, without consulting local authorities.

The mine would extract what is estimated to be a Probable Ore Reserve[2] of 4.65 million tons of HMS, including zircon and titanium sands (rutile, ilmenite, and leucoxene),[3] over a period of three to five years. In total, the project would use capital-intensive procedures of dry and wet zircon mining, aiming to mine a six kilometer (3.7 mile) length of dune, from Niafarang to the village of Abéné. In 2007, Carnegie assigned the Niafarang[4] Project to a wholly owned subsidiary, Coast

[1] Having joined the Extractive Industries Transparency Initiative (EITI) in 2013, Senegal's first report noted that the extractive sector generated 90 million USD, around two percent of national income (Gordy, 2015). It also expressed President Sall's interest in attracting further investments in mining, through revisions in the Mining Code and taxation structures (Gordy 2015).

[2] A Probable Ore Reserve is a category in the mining industry's classification of deposits, referring to indicated and/or measured mineral resources that can be mined in an economically viable way. By contrast, a Proven Ore Reserve is a reserve of measured mineral resources.

[3] Estimates of the Niafarang reserve are of 82 percent ilmenite, 15 percent zircon, two percent rutile, and less than one percent leucoxene. In terms of anticipated proportion of revenue, percentages are respectively 38 percent, 56 percent, five percent and less than one percent (Coetzee, 2013).

[4] Locally, the name of the village is also spelled "Niafourang," "Niafran," or "Niafrang."

Resources, and entered into a merger with Hong Kong-based and Australia-based Astron Corporation Limited. Since 2008, the project has been fully owned by Astron.

As of 2013, the project was anticipated to generate earnings before interest and taxes (EBIT) of US $162 million and a Net Present Value of $92.8 million (Coetzee, 2013). According to mining laws then *en vigueur*[5], the Senegalese government was entitled to ten percent free shareholding and mining royalties amounting to three percent of earnings. The venture also included 25 percent fully paid shareholding by Senegalese investors, as well as "continued social responsibility program funding" (in the form of infrastructural development, student bursaries, hospital construction, and educational facilities) and support for a "sustainable development project" focused on value-added mango processing, designed to link local fruit growers with global markets (Coetzee, 2013). Beyond delivering a portion of revenues and royalties to the Senegalese government, the project also promised a range of local amenities consistent with a transactional model of *extraction for development*.

Yet thirteen years have passed since exploratory studies revealed sizable ore, and the project has yet to begin. I arrived in Niafarang in 2015, on the eve of what turned out to be one of many proclamations that the mine was about to begin. In the time I was there, no ground was broken and life continued on, albeit with the threat of the mining project always looming in the near future. The mining project was the subject of a proliferating controversy, enrolling local village residents, representatives of the regional separatist Movement of Democratic Forces of Casamance (MFDC), state actors, foreigners, the mining company (by way of a Dakar-based environmental consultant), NGOs, and unruly interactions in coastal socio-natures into a series of entanglements that resulted in continued failure of the mine to be approved and begin operations. Central to the production of

[5] A revised mining code was passed in November 2016.

the controversy and the opposition to the project was a community-based but internationally-networked group named the *Comité de lutte contre l'exploitation du zircon en Casamance* or Committee Against Zircon Mining in Casamance (henceforth, the Committee). It was only in June 2017 that a Small Mine License was signed between the Senegalese state and Astron; at the time of writing, the project still remains tied up in negotiations. The micropolitics of these entanglements—partial and situated, both in particular places and a particular political moment within the negotiations—form the basis of this dissertation.[6]

Amid this situation, I came to ask the following questions: Why did the Niafarang Project fail to move ahead as planned? How and why did it become controversial? This was at odds with the pattern in which much larger mines have entered into operation without nearly as much controversy or debate, such as the massive Grande Côte Operations HMS mine along 100 kilometers of coastal dune north of Dakar. It was also at odds with a body of literature that suggests that corporations are fantastically adept at maneuvering in such a way as to access minerals and resources that are in demand (Butler, 2015), and that sees corporations, capital, and/or the state as steamrolling and co-opting those human or natural barriers that challenge them (Kirsch, 2014). Yet such protracted negotiations and their stop-and-start temporality are indeed fairly common in the literature on mining and land grabs (Chung, 2017; Gedicks, 2001; Golub, 2014; Li, 2015). Conceptually, then, the puzzle of the Niafarang Project is not why it failed to move forward on schedule, but about the temporal and material disjuncture between plan and outcome (Abram &

[6] Senegal's heralded commitments to democracy and participation (Cruise O'Brien, 1996; Diouf, 2013; Gellar, 2005)—sometimes argued to make it an "exception" to repressive and undemocratic dynamics observed elsewhere in Africa (Cruise O'Brien, 1996; cf. Ralph, 2015)—made it an interesting context in which to examine the government of a national development program anchored heavily in increased mining and petroleum extraction, and how this was reconciled with strong opposition, demands for participatory processes, and environmental standards geared toward "sustainability." In this context, examining a mining project facing ongoing contestation, in a politically tense region, allows for theorization and understanding of how resistance and government may operate through contradictions.

Weszkalnys, 2013). This triggers a series of questions about the relationships between technologies of power exerted to govern extractive development, and the temporal, socio-spatial, and ecological disruptions to these attempts: How do social, political, and material disruptions create frictions between the planning and execution of extractive development? And how do state, corporate, and social actors aim to reduce and remove these frictions by attempting to render projects predictable, manageable, and governable? Through these questions, I ask more broadly what it means to govern over and through an extractive project.

I argue that the stakes of the Niafarang Project negotiations were about whether environmental, social, and political effects could be predicted and rendered manageable in line with expectations of development. While community groups highlighted unpredictability and at times produced unmanageability, the mine's proponents focused on strategies aimed at predicting and constraining the extent of effects, rendering them manageable through both formal and informal government. I interpret various aspects of the controversy and contestation through the concept of overflow (Callon, 1998; Hébert, 2016). In Michel Callon's analysis of the economy as an object, he suggests that continual attempts to internalize that which remains "beyond" the economy always serve to create an overflowing of additional externalities (Callon, 1998). Attempts to disentangle economies from social and political circumstances, to separate the "economy" from any unpredictable outside, produce further entanglements (Callon, 1998, p. 40). Taking up a similar argument, Hannah Appel (2012) suggests that the petroleum industry's production of the "offshore" as a space of disentanglement in fact requires an immense amount of labor and work that re-entangles corporations with the socio-political contexts in which they operate. As taken up by Karen Hébert (2016), overflow emphasizes the ways in which the public

brings in connections and interactions beyond the "frame" of environmental impact statements, generating further debate.

Combined with understandings of government, overflow conceptualizes any world-making project—of the economy, of modern government, or of environment—as incomplete. It exposes the mythology of things like the economy, government, or the environment as *seeming* to be and all-encompassing, total, and totalizing, rather than partial and incomplete projects of making certain kinds of worlds in certain kinds of ways.

While concepts like overflow, and other approaches stemming from constructivism, assemblage theory, and Actor Network Theory, highlight the ways in which worlds are not existing but are made, disrupted, and incomplete, they often lack a theory of power (Appel, 2017). For instance, Callon is unclear about through whose actions the "economy" is produced, instead discussing this as the outcome of a nebulous set of distributed agencies. My contribution is to use insights from theories of government and of constructivism in conversation with each other.[7]

In addition, I engage both of these bodies of theories with questions of anticipation, prediction, and the future. The imagined future exerts a material influence on the present (Wynne, 2007), through expert practices of speculation (Ho, 2009; Tsing, 2000), arbitrage (Miyazaki, 2007, 2013), and anticipation (Adey & Anderson, 2011; Anderson, 2010; Weszkalnys, 2014) and through experiences of hope (Miyazaki, 2004, 2006, 2017; Sparke, 2007; Weszkalnys, 2008), waiting (Jeffrey, 2010), nostalgia for foregone futures (Ferguson, 1999; Piot, 2010), and prophecies or apocalyptic predictions (Guyer, 2007; Harding, 2000; Marshall, 2009; Piot, 2010). As a departure from teleological models and confidence in managerial, technical expertise, the

[7] Indeed, others have suggested that Foucauldian apparatuses and Deleuzian assemblages are merely two sides of the same coin (Legg, 2011).

uncontrollability and uncertainty of the future reworks attempts to manage the "aleatory"—aspects of uncertainty or contingency (Clarke-Sather, 2017; Foucault, 2007)—in both disruptive and generative ways. The future also matters in anticipatory planning for the "not yet" of resource exploitation (Weszkalnys, 2014) and in the role of anticipated events in governance regimes (Adey & Anderson, 2011; Anderson, 2010). Through the portended ability to effectively predict—and, in some cases, effectively intervene in—future economic revenues, environmental impacts, and social effects of mining projects, such projects are presented as governable, manageable, and knowable. This effectively allows for mining and extraction to be corralled into broader development ambitions, by circulating figures for the amount of income the national government will receive (in spite of the actual difficulties of valuing future prices on commodity markets), generating numbers of local jobs, or offering grandiose plans for how CSR programs will benefit local populations. In this respect, the Niafarang Project and the controversy surrounding it is about the ability of governments, corporations, and experts to control and manage the future of extractive development. By contrast, both social mobilization and the material world, in their own ways, destabilize and push back against governable and predictable futures. Overflow is thus also about the proliferation of alternative futures, and the specter of these as the Others of extractive development's promises.

(Extractive) Development

Disseminated through agricultural, health, education, and other schemes, "development" has been a central discourse legitimizing the global extension of capitalism via colonialism (Cooper, 1997; Wainwright, 2008). Beyond the improvement of the conditions of human life, it represented the resources of a colony as under-exploited, acting as a counterpoint to the idea of waste, and recasting the civilizational narrative according to the ability of a population to exert

labor over land and produce value (Gidwani, 2008). Development is thus understood as a moral corollary to resource exploitation (Wainwright, 2008)—a discourse that legitimized and justified the targeting of populations, their conversion into subjects, and their service to economies that were fundamentally extractive, in the sense of withdrawing geological and biotic resources from their locations and using them to fuel economic growth in the metropole (Sachs, 2010). Further, from its inception the idea of development was imbricated in a project of government and rule (Escobar, 1995; Wainwright, 2008).

At the same time, development discourse has also come to be worked into popular expectations, desires, and ambivalences toward development as an aspirational or normative idea (Ferguson, 1999; Gidwani, 2002; Gupta, 1998). Vinay Gidwani (2002) stresses that local evaluations of the beneficial or detrimental aspects of development occur in light of the possibilities that development opens up or forecloses (p. 6). He argues that "discourse is understood, *vide* Foucault, as … a continuous process of demarcating what is possible and what it not: of positing the sense of limits that constitute social reality. But discourse is simultaneously a mode of productive—as opposed to merely repressive—power that enables desire and longing" (Gidwani, 2002, p. 3). If development as a Eurocentric high modernist discourse was formed through interactions and relational dynamics between European countries and their colonies, he suggests, might contemporary interactions, relations, or interventions produce alternative ideas about the conditions of the possible that development represents? For Gidwani, development has come to stand in for a host of heterodox ideas, aspirations, and claims for a better life, within specific historical and geographic contexts (2002, p. 5). In this respect, development as a discourse has not been merely imposed *tout court* on populations in the Global South; rather, it has fueled a range of expectations, demands, and visions that exceed its own limitations and framing.

Extractive development could be conceptualized in a variety of ways in relation to mainstream development and the excesses of its popular expectations. First, it could be used to suggest that development, capitalism, and European hegemony have, from their inception, depended on extraction (Huber, 2013; Sachs, 2010). Second, it describes resource extraction-led models of economic growth, particularly in what have been termed extractivist and neo-extractivist regimes in Latin America (Bebbington & Humphreys Bebbington, 2011; Burchardt & Dietz, 2014; North & Grinspun, 2016). Extractivism refers to the historical and contemporary reliance on the export of minerals, petroleum, timber products, and commodity crops as a model for national economic development, in countries like Peru, Brazil, and Chile; neo-extractivism refers to the use of nationalized extractive industries toward the progressive social goals of Leftist regimes in Latin America, with Ecuador and Bolivia often provided as notable examples.[8]

A number of countries in Africa have also seen mining and petroleum extraction as increasingly important sources of revenue and have moved toward a similar type of extractivist model. The collapse of paternalistic and developmental models for mining investments amid neoliberal reforms, combined with the discoveries and development of numerous offshore oil reserves, has led to forms of mining investment that have been argued to be "socially thin" (Ferguson, 2006) and more "oil-like" (Ferguson, 2006, p. 201)—capital-intensive, requiring less labor, often importing foreign workers rather than hiring locally, and creating enclaves that are literally and figuratively "walled off" from the rest of the national society (Appel, 2012; Ferguson, 2005, 2006, p. 36).

[8] While advocating different models for extraction's role in national economic development, and initiating radically different relationships between the state, private corporations, and mining, both extractivism and no-extractivism have been argued to be similar in certain key respects—namely, both rely on repressive mechanisms for quashing dissent and opposition to mining projects (Bebbington & Humphreys Bebbington, 2011; Lu, Valdivia, & Silva, 2017).

In certain contexts, however, mining companies have mirrored the discourses and trends that have occurred in development circles more broadly. This has been part of corporate responses to past observations and activism against the environmental, economic, and socio-political effects of extraction (Gedicks, 2001; Kirsch, 2014). Particularly in contexts where extraction occurs onshore and is met by contestation or strong state regulation, mining corporations have increasingly presented themselves as investing in social programs, increasingly drawing on rhetorics and practices of corporate social responsibility (Billo, 2015; Kirsch, 2014; Welker, 2014), sustainability (Hamann, 2003; Hilson & Murck, 2000; Kirsch, 2014), and developmental goals, broadly conceived. In the Niafarang Project negotiations, Astron not only promised jobs, but also planned broader social investments in local sports teams, electricity infrastructure, roads, conservation initiatives, an income-generating project focused on mango processing, and construction of hospitals and schools. These promises mapped perfectly onto village residents' developmental demands, but they came as part of a contractual exchange: extraction *for* development. This disrupted what residents saw as their entitlements as Senegalese citizens: their demands that the *state* deliver and distribute these goods to the locality, not as terms of a contract but as part of citizenship and democracy.

For Stuart Kirsch (2014), mining corporations' embrace of discourses of sustainability, responsibility, and transparency simply co-opts the discourses used by critics, as part and parcel of divide and conquer tactics for getting mining projects approved. He describes these as "corporate oxymorons," attempts to achieve "symbolic capital," or strategies to maintain public image (Kirsch, 2014, p. 185); only in the worst and most publicized cases, where the costs and threats are too financially or socially significant, do corporations actually develop new forms of regulation and engagement. But from the perspective of the state, or rather the relational co-

production of state and society, extractive development does more than simply co-opt criticism. It redefines and transforms what government is about, and reshapes geographical relationships among corporations, civil society, and the state around resource-making and resource-rich environments (Billo, 2015; Emel, Huber, & Makene, 2011; Klinger, 2017).

Governing Extraction

For Michel Foucault, to govern is to conduct the behavior of others or of oneself (Foucault, 2007, p. 193). Tracing the genealogy of European thinking about the art of government, he suggests that governmental power operates through a series of tactics to produce subjects that could be conducted toward certain ends, such as the development of a national economy, the securing of household subsistence, or the growth of populations.[9] Government is enacted by a range of institutions and supra-institutional discourses and practices that produce subjects that are able and willing to be conducted toward intended ends, and it gives these institutions (including the state) their *raison d'être* or *raison d'État*, as it were.[10]

Government is useful in understanding how mining projects are adopted, enacted, and internalized. The approval of extractive projects necessarily rests on national governmental power; this has led some scholars to interpret colonial and postcolonial mining projects through the lens of (relational) sovereignty (Emel et al., 2011). Extractive development espoused by a democratic state, such as Senegal, requires a certain amount of popular buy-in to the idea that mining delivers

[9] Foucault (2007) suggests that the ends or aims of this conduct are determined internally to the relations being governed. This is set in contrast to a sovereign's tautological reproduction of his own sovereignty through the application of law across territory or a disciplinary regime's issuance of punishment on individual bodies, both of which predominated prior to the governmentalization of the state from the eighteenth century onward. Government does not fully supplant these other two forms of power, but co-exists with them; as Donald Moore (2005) has suggested, the differential importance of each and their relationship to each other is often in flux.

[10] Although Foucault frequently emphasizes the nation-state as a unit of analysis, he also notes, "the state is only an episode in government, and it is not government that is an instrument of the state" (Foucault, 2007, p. 248). States play an important role in government but are no means the only institution or actor involved in governing relations.

developmental benefits, often in the form of jobs and multiplier effects. The art of government in the context of contemporary extractive development, then, depends on conducting conduct of multiple assemblages toward often contradictory goals: the protection of environments and the commitment to "sustainable" development, the improvement of the conditions of life for populations ostensibly benefiting from mining, the growth of the national economy, and the satisfaction of the demands of investors and mining corporations.

Governmentality is a rationality of rule, particular to government, that incorporates institutions, calculations, and tactics that "allow the exercise of this very specific, albeit very complex, power that has population as its target, political economy as its major form of knowledge, and apparatuses of security as its essential technical instrument" (Foucault, 2007, p. 108).[11] Technologies like statistics, censuses, standardization practices, development projects, and high modernist ordering of space (Ferguson, 1994; Foucault, 2007; Hacking, 1990; Scott, 1998) make populations knowable and legible to the state or to development actors. Similarly, conservation programs have been argued to produce environmental governmentality (Agrawal, 2005; Goldman, 2001; Luke, 1995). Measurement, records, and calculations in these cases are not meant to reflect reality, but instead to make populations able to be acted upon by particular kinds of apparatuses (*dispositifs* or *appareils*), often in ways that depoliticize and "render technical" a host of socio-political issues (Ferguson, 1994; Li, 2007). In the context of extractive development, governmentality also highlights the ways in which the state and mining corporations depend on legal technologies and geological mapping to know and access resources (Braun, 2000). But to navigate the multiple contradictions posed by extractive development, particularly given its long-

[11] In this idea of government and governmentality, Foucault's intellectual debts to Louis Althusser and Antonio Gramsci are clear. Through government, much like hegemony (Gramsci, 1971) and the ideological state apparatus (Althusser, 1971), subjects are made responsible for maintaining and abiding their own subjection.

term nature, other kinds of technologies, often future-oriented, are also important in governing mining and extraction: the process of environmental impact assessment, which estimates and manages future risks; the act of dialogue and participatory democracy, which emerges within an international context focused on "good governance" paradigms; and the formalization of informality, in the use of promises about future wealth to secure acceptance to projects. These technologies, in addition to the manipulation of who is considered to be a part of the "population" with which government is concerned, presents mining projects as governable objects, whose future revenues, impacts, and benefits can be known and managed.

Resistances and (Un)Governability of Material and Social Worlds

While attempts at rendering extractive projects governable are important to the legitimization of extractive development—as something whose effects can be planned, predicted, and managed, and channeled toward overall betterment of the population—this runs up against a host of ways in which such predictions are exceeded by the material and social worlds. Attempts at projecting economic values come up against the "radical incalculability" (Appel, Mason, & Watts, 2015, p. 9) of revenues amid the volatility of markets. In terms of environmental predictions, environmental impacts very frequently exceed the projections made in Environmental Impact Assessments (Kirsch, 2014; Li, 2015; Perreault, 2013)—sometimes producing what has been termed "dispossession by accumulation" of toxic sediments (Perreault, 2013). Similarly, commitments to transparency often serve to fuel debate and controversy, rather than resolving it (Barry, 2013). The "threats" posed by local communities, national governments, political events, or ecological risks continually push back from the edges of extraction, forcing corporations to accommodate, neutralize, or internalize these threats.

Speaking more broadly of attempts to produce universalizing notions of development or conservation, but also in particular regarding a speculative mining scandal in Indonesia, Anna Tsing (2005) develops the idea of "friction" to explain the difficulties projects with "global" aspirations have in instantiating themselves in local communities. She defines friction as "the awkward, unequal, unstable, and create qualities of interconnection across difference," which result in the continuous co-production of cultures (Tsing, 2005, p. 4).

But, Tsing cautions, friction does not always signify resistance to power: the metaphor of friction symbolizes both the slowing down of motion and that which makes movement possible. She explains that "In the historical particularity of global connections, domination and discipline come into their own, but not always in the forms laid out by their proponents" (Tsing, 2005, p. 5) and that "hegemony is made as well as unmade with friction" (Tsing, 2005, p. 6). Comparing friction to the metaphor of a road, she states, "Roads create pathways that make motion easier and more efficient, but in doing so, they limit where we go" (Tsing, 2005, p. 6).

Like friction, the concept of overflow is both a challenge to and constitutive of power. Unlike friction, however, it addresses the ways in which attempts to constrain boundaries—i.e., the definition of the state's role, or the environmental impacts of mining—are confronted by and forced to contend with the proliferation of other kinds of demands, understandings, or predictions at their edges. The material, economic, social, and political worlds always exceed the government of extractive development, forcing revision and reframing to internalize this "overflowing" of effects (Callon, 1998). This in turn produces new unruly outsides.

For Foucault, forms of resistance necessarily mirror specific forms of rule; he suggests the term "counter-conduct" to describe the forms of opposition to government, which often occur through disobedience (Foucault, 2007, p. 201). Drawing on both Foucault and Gramsci, Donald

Moore (2005) suggests that resistance to racialized land policies in Zimbabwe have occurred within and through the ordered, legible space of state power, not as "local" opposition to an external force (p. 21). To give another example, Janet Roitman (2005) offers the idea of "fiscal disobedience," through which fiscal subjects cultivated by the Cameroonian government developed an opposition movement amid economic crises of the 1990s. Termed *incivisme fiscal* by the government, the movement, Roitman argues, was not about rejecting authority outright, but about "disagreement over the *intelligibility of its exercise*" (Roitman, 2005, p. 5) and about the boundaries between illicit and licit forms of economic extraction. In response to the government's attempt to create responsible economic subjects, she shows what could be viewed as the counter-conduct through which individuals engage in a variety of "illicit" practices that complicate fiscal government. More recent work complicating resistance also suggests that "quiet encroachment" (Bayat, 2000) may occur through non-strategic means, in the form of tapping into infrastructures or electricity grid to access the means of livelihood (Silver, 2014), without a central objective of "resisting" power.

What I wish to pull from this work is that attempts to produce standardized, calculated, regulated, and legible populations always lead to the proliferation of excesses that are not quite "outside" the system, but that exist beyond, and constantly push back against, its framing devices.[12] If government and global capitalism are world-making and future-claiming projects that are always incomplete and in process, then this creates space for examining forms of resistance to power, which exploit alternatives, excesses, and contradictions to shape what power *is*. In other words,

[12] One could also use this lens as a way of examining anti-colonial movements that advocated for the same rights under liberalism as were extended to citizens of the metropole, as highlighting and pushing back against the restrictive and racialized framing of who counted as a rights-bearing person.

power is not a pre-existing force or thing, but an ongoing project of determining a field of relations in which domination, compromise, forfeiture, or a sustained impasse are all possible.

Research Methodology

Empirical data for this dissertation is based on fourteen months of fieldwork between 2014 and 2017, the majority of which occurred between March 2015 and March 2016. My analysis of empirics is based on the triangulation of data from three main sources: participant observation and informal conversations, semi-structured individual and group interviews, and content and discourse analysis of documents.

Participant Observation

Through participant observation and informal conversations, I built relationships with activists against the mine, village residents, and state actors connected to the Ministry of the Environment and Sustainable Development and the Ministry of Mines; attended meetings of the Committee Against Zircon Mining in Casamance, village meetings to which I had access, and meetings between state actors and the public; spent time with various groups of people in different villages; attended rice planting events, mangrove planting events, and oyster cultivation project events; shadowed activists against the mine; and conversed frequently with various actors.

Unlike quantitative studies, ethnography does not strive for representativeness, but may rather pursue "theoretical sampling," attempting to include differently positioned people and engaging in constant comparison in the field to generate theory (Burawoy, 1998; Glaser & Strauss, 1967). I followed this form of sampling in interviewing and in spending time with and shadowing different individuals and groups, along various gendered, class, and geographical lines. Modifying the methodology that Sverre Molland (2013) terms "tandem ethnography," which works between state agents and those their interventions target, I sought to build connections with multiple groups

of people who came together to oppose or promote the mine, including state agents (both for and against the mine), established families in the villages, foreign expats residing in the area, activists in the Committee, and longtime residents from elsewhere in Senegal or West Africa.

In spite of commitments to theoretical sampling and my attempts to conduct participant observation and interviews with various groups of people in different villages, I remained closest to two main groups of people, for reasons related to access and language: first, members of the Committee, and second, state agents working with the nearby Marine Protected Area. Both groups were predominantly male. My connections with the first group deeply inform this dissertation, while my connections with the second are mobilized as part of broader discussions of the heterogeneity of "state" opinions, positions, and interactions with village residents. In other words, I do not incorporate conservation programs or the Marine Protected Area itself as central lenses for interpreting the rest of this dissertation, although they are certainly a part of the larger story.

In the course of research, I also developed a working relationship with an anthropologist based at the University of Dakar, who planned to conduct a household survey with input from the Committee. The survey was designed not as part of my own research plan, but as a way for the Committee to check that its committed opposition to the mine and its claim to speak for the "population" as a whole was consistent with widely held views in the villages that were considered part of the fight against the Niafarang Project. I attended the Committee meetings where the household surveys were discussed, and I ended up, through various mishaps, conducting some surveys in several villages with the help of research assistants recruited locally. I typed up the results from this survey into an Excel spreadsheet, when the original researcher did not complete this task. The Excel spreadsheet, along with a couple of graphs of the distributions for various responses, was then printed out and mailed to the Committee several months after the conclusion

of my own research, for their own internal organizing and strategizing.[13] Because of numerous flaws in the design of the surveys, and the unreliability of results, I do not use any statistics derived from it in this dissertation. I do, however, use the experience of discussing, developing, and conducting the surveys as part of my ethnographic observations, as these interactions were illuminating of various ideas about rumor, suspicion, and position regarding the mine, which I discuss in Chapter 6.

Semi-structured Interviews

In addition to participant observation, I utilized semi-structured group and individual interviews, obtained through theoretical sampling. I solicited interviews with both men and women; residents of different ethnic backgrounds and natal origins in each village; residents of the most directly implicated villages adjacent to the site as well as more distant villages; officials from key ministries in Dakar and their local and regional divisions; and both appointed state officials and elected officials working at the local level. For generic interviews, questions often began by asking respondents to recount when and how they learned about the mining project, and their understandings of the benefits and costs of the project; additional questions and follow-up questions were determined by the responses and dispositions of the respondent. Interviews about specific aspects of the project included more targeted topical questions than the general interviews. I also interviewed elders and chiefs in various villages throughout the district, to understand how local historical relationships were talked about in the context of the mining negotiations. In total, I conducted 87 individual interviews and 12 group interviews. Most of these were audio recorded

[13] At that time, most members of the Committee did not have consistent or reliable internet connections and had a very weak 3G network in the villages.

on my iPad or by handheld recorder; for various reasons, some were not recorded. For all interviews, I took notes by hand.

Document Analysis

I also conducted content and discourse analysis of legal, scientific, and activist documents. These included the following: the Environmental and Social Impact Study for the Niafarang Project and, for comparison, environmental assessments of other projects; presidential decrees declaring the MPA boundaries and deciding on mining concession boundaries; the National Domain Law of 1964; the Decentralization Law of 1996 and Act III of Decentralization, passed in 2013; the Mining Code of 1988 and subsequent revisions, including the then-draft revisions in 2015 (which were passed in 2016); the Environmental Code of 2001; Emerging Senegal Program documents; memos issued by the Movement of Democratic Forces of Casamance; internal documents circulated within the Committee; articles about the project in regional, national, and international online newspapers; and the mining license signed in 2017. In coding, I used the content analysis software Atlas.ti to highlight common keywords in these documents, as well as in interview transcripts and fieldnotes.

Access, Positionality, and Reflexivity

Research was conducted primarily in French and, to a lesser extent, in Wolof. I am proficient in both. However, the main languages spoken in the region where I conducted fieldwork, besides French, were Jola-Fogny, Mandinka, and Jola-Karon (Kulonaay). In many meetings, my language competencies did not pose a problem, as *ad hoc* translations often occurred, given the diverse linguistic backgrounds of community members themselves. My linguistic limitations came into play mostly in regard to side conversations, such as a fascinating moment participating in a work group of women in Niafarang, when I caught a number of names I recognized, like "Kabadio,"

"Carnegie," and additional HMS mine sites in The Gambia, but could not understand the rest of the discourse.

Through both conversation, and lessons with local residents willing to act as language instructors, I developed some familiarity with Mandinka and Kulonaay.[14] By the conclusion of fieldwork, I could follow and understand a fair amount of others' comments, engage in conversations, and pose fairly basic interview questions in Mandinka. However, my Kulonaay remained basic and conversational; I was not able to attain the necessary proficiency to conduct interviews in the language.

My linguistic limitations both affected and were affected by the kinds of people I interacted with. Committee members and MPA agents all spoke French fluently, and, given their multi-ethnic backgrounds, they often conversed in French or Wolof among themselves. This meant that I could more easily engage in and understand conversations, particularly at the start of fieldwork, when I spoke no Mandinka or Kulonaay. These individuals were all men, of varying ages.

It was considerably harder for me to speak with and interact with women, although I attended *kafos* (labor groups in rice fields) a number of times, accompanied village women in their tasks, and conducted interviews with women (with a translator). However, I never achieved the level of familiarity or close friendship with women that I did with men. It was also harder for me to speak with men in Niafarang and Kabadio, who spoke only Kulonaay or Mandinka. For instance, it took a number of months before I could carry on a conversation with the *alikaali* of one Mandinka village who spoke no French.

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[14] Kulonaay is spoken by Jola from the Karon Islands, and is very different from other languages in the Bak language family spoken by Jola and other groups. It is the main vernacular language spoken in Niafarang.

I found this frustrating and discouraging—after all, I had spent years learning Wolof, precisely so that my research could achieve the kind of depth, richness, and local embeddedness found in so much ethnographic research, only to conduct research in an area where some residents had only a limited command of Wolof and where nearly no one spoke it in everyday life. The limitations in access that this produced is a shortcoming in this research, and it influences the story that I tell about the mine. That story may have been different, for instance, if my primary interlocutors had been women.

At various points in this research, I hired three male research assistants who spoke local languages and had local connections. In particular, Abdullah merits considerable appreciation and gratitude, for his role in facilitating interviews in villages where I had few contacts otherwise, translating the comments of interviewees, and approaching our work with attentiveness and reliability.

Concerns about and acknowledgement of positionality stem from feminist research and the push for reflexivity in research. This means situating oneself as a researcher, both within the research encounter and within the broader field of power relations that underpin and inform knowledge production. Reflexivity aims to make transparent that knowledge is situated, partial, and imbued with power relations, rather than masking it behind the god-trick performed by the "objective" scientific gaze (Haraway, 1988). Positionality has been advocated as a reflexive approach that takes seriously the researcher's position within broader fields of power relations, based on class, education level, race, nationality, gender, and other social identifiers. It thus addresses unequal material conditions between researchers and their interlocutors, particularly among researchers from the Global North who study the Global South (Madge, 1993; Radcliffe, 1994; Staeheli & Lawson, 1995), and academic privilege embedded in the act of interviewing, data

analysis, interpretation, and writing (England, 1994; Madge, 1993; Radcliffe, 1994; Staeheli & Lawson, 1995). Because various intersectional identities of the researcher *vis à vis* research informants may impact the data collected, the types of knowledge produced, and the politics of representation, researchers have sometimes engaged in a confessional act of making visible their partiality (England, 1994, p. 86) and locating their position within broader fields of power (Katz, 1992; Nast, 1994; Staeheli & Lawson, 1995).

Yet this is an incomplete and often *a priori* assumption about what aspects of identity matter, and how. Gillian Rose (1997) suggests that the attempt to make power relations fully known and visible in fact reproduces the god-trick. The researcher is presented as capable of having full knowledge of what power means for research informants, how it operates, and what aspects of social identity might matter. Where is the agency and ability of research informants to make their own interpretations, to refuse to participate, or to postulate the researcher's position in ways that the researcher may not know, understand, or be aware of? Further, disclosure of researcher identities often does not adequately address or seek to destabilize power relations, leading some to call for greater collaboration in research (Nagar & Ali, 2003; Raghuram & Madge, 2006). As Kim England (1994) suggests, positionality is not only about researchers, but about the "betweenness" of researchers and the world we study (p. 86). Similarly, Farhana Sultana (2007) argues that "we need to recognize that differences in power, knowledges, and truth claims are constantly negotiated. The knowledges produced thus are within the context of our intersubjectivities and the places we occupy at that moment (physically and spatially as well as socially, politically, and institutionally)" (p. 382). In other words, power relations and positonalities do not work in the same ways at all times and all places (see also Ward & Jones, 1999); they are constantly in

negotiation. And because power is a *relation*, e.g. between a researcher and those who are being researched, interlocutors are also involved in interpreting researchers and their actions.

In Niafarang and its surroundings, my positionality was influenced and shaped by the contemporary politics of place and the politics of development—and my role within this as a white, American woman and academic—but also by perceptions of my position and involvement relative to the mining project. My positionality also operated in ways that at times were not clear or known to me. For instance, late in fieldwork, I learned that a chief of one particular village—with whom I had thought I had a decent relationship—told residents that I was a "spy" for the mining company. Learning this, I kept my distance, but continued to puzzle over his change of heart. In any case, the meanings and interrelationships of my whiteness, foreignness, gender, and Americanness—my relational position, in other words—had shifted.

This illustrates two aspects of my positionality. First, my position was not for me to declare, through a critical reading of my identity and privilege. Had a friend not divulged to me that I was reportedly a spy, this reading of my position would never have become known to me; there are likely many other readings of my role and position that I cannot and will never know (including, possibly, readings of me as far less consequential or influential in village life than the literature on positionally and reflexivity might suggest). Second, positionality is historically, geographically, and socially relational—the aspects of my privilege and my social identities that matter to others, to the data I collect (or which is withheld), and to the analysis that I generate, are produced through particular conjunctural moments, relations to others in the field, and arrivals at particular times and political contexts. My attempts to study the project as a foreign researcher were inevitably entangled with other kinds of interventions and manipulations—some I was aware of, others which I may never know.

As Kamala Visweswaran (1994) astutely points out in *Fictions of Feminist Ethnography*, ethnography is often an exercise in betrayal, even as it works to build more ethical and engaged ways of conducting fieldwork. Ethnography demands developing a rapport with informants, while also interrogating the stories they provide and the actions they engage in. There are points in this dissertation that certain members of the Committee—people who facilitated my entry into the fieldsite, who took the time to explain their struggles and their experiences to me, and who welcomed me into their lives and activities—may find problematic or may view as undermining the legitimacy of the movement. This is a consequence of the interpretive choices I have made about the data I have produced out of the field, and reflects various aspects of my privilege in trying to generate intellectual arguments about experiences I have not lived.

Beyond simply a method of data collection, ethnography is a mode of writing, rooted in thick description (Geertz, 1973) of cultures, processes, and phenomena and in understanding these, as much as possible, within their own social context. In my writing, I have changed all names of individuals—a standard research practice designed to protect the confidentiality of subjects, but one that some informants found perplexing and problematic, as it rendered them invisible as political actors. I have also scrambled certain details, out of concerns of confidentiality and identifiability. I have retained the names of villages and the corporation involved in the controversy. As a geographer, I believe that the specific place—its name, history, and location—does matter to the telling of this story.

Ethnographies are fictitious, in the sense that they are something made and produced, and they are always partial, written through the author's interpretations of events and through editorial decisions about what to include or exclude (Clifford, 1986). As James Clifford suggests, some views about ethnography hold that "all constructed truths are made possible by powerful 'lies' of

exclusion and rhetoric. Even the best ethnographic texts—serious, true fictions—are systems, or economies, or truth. Power and history work through them, in ways their authors cannot fully control" (Clifford, 1986, p. 7). However, attempting to make definitive arguments depends on a common paradox, in which provisional, historically- and politically-situated observations are used as the basis for "final" interpretations or arguments (Crapanzano, 1986, p. 51). Ethnography is not only about writing cultures, but about writing intelligible worlds; like all world-making projects, it entails exclusions and silences (Tsing, 2010)—and, I might add, overflows. My work is as much constituted by its silences, exclusions, and indeterminacies as by what I have chosen to include. Rather than answers, I find myself approaching this dilemma with questions: Does this do intellectual violence to those with whom I worked, whose organizing strategies I deeply admired? How do I reconcile daily struggles and demands, and the urgency of resistance against the mining project, with the long gestation period of research "results," which have been necessarily filtered through theoretical and academic frameworks?

I am reminded of one Committee member who frequently asked me whether I had completed my dissertation and when I would present my findings to them. (Of course, I had no "dissertation" to present at the time and explained this.) Unfortunately, I do not think my results would be as helpful to their movement as they may have thought when generously allowing me to tag along, observe, and ask questions. These discrepancies continue to trouble me and my scholarship; I do not know what to do with it, except to leave it open, in tension, and unresolved.

Chapter Organization

As a concept and metaphor, overflow operates in Niafarang in multiple ways, which I trace through this dissertation. Chapter 1 outlines a brief history of the village and region, setting the stage for subsequent discussions of how these histories have come to matter in the Niafarang

Project negotiations. Chapters 2 and 3 focus on debates about the governability of the mine's effects on the material world and the complications posed for mining by changing coastal dynamics. Chapter 2 examines the Environmental and Social Impact Study (EIES) completed for the Niafarang Project. The EIES was an attempt to bound specific, discrete impacts of the mine, to make the mine's environmental effects appear predictable and manageable. However, activists and critics repeatedly brought concerns about what was left "outside" into the debate about the document. Namely, they focused on the consultant's conflict of interest, which may have skewed the results, and on alternative interpretations of the data, calculations, and images used to render the mine innocuous. They also utilized a strategy of "scale jumping" (Smith, 1992) to articulate their critiques of the EIES to international actors and to two members of the Senegalese National Assembly, and to push for a new, independent EIES as part of a delaying strategy. This chapter is in conversation with existing scholarship on environmental impact assessment that challenges the work that assessment does. Rather than accurately predicting effects, assessment serves as a form of corporate risk management (Kirsch, 2014; Li, 2015), and allows corporations to check off "participation" in project approval—even when the format of the document and consultations are exclusionary and alienating (Li, 2015). Assessment has also been argued to create the very "environments" it seeks to describe (Corvellec & Boholm, 2008), to exclude indigenous voices and key stakeholders, and to make developmental claims for mining projects (Bedi, 2013). But these documents and the consultation processes around them have also been used by social groups and activists to challenge the framing work and the depoliticization of the assessment process (Hébert, 2016), to demand procedural environmental justice through participation (Urkidi & Walter, 2011), and to advocate for local employment (McCreary, Mills, & St-Amand, 2016), with varying degrees of success.

Chapter 3 interprets overflow in both a literal and figurative sense. Literally, it refers to what village residents describe as ongoing "invasions by the sea and the salt," through the advancing of the sea into village space. As these experiences are bound up with the proposed mining project, village residents came to fear the ways that reducing the height of the coastal dune through mining would aggravate coastal erosion and saltwater intrusion, and could, at worst, flood the low-lying rice fields and homes east of the mine site. Figuratively, overflow here also refers to the excesses of local environmental ontologies beyond the bureaucratic framework of the EIES. Drawing from literatures on rethinking divides between "traditional ecological knowledge" and Western science (e.g. Agrawal, 1995; Gupta, 1998; Lowe, 2006), I suggest that these local ontologies have formed as an amalgam of traditional cosmologies, local observations, scientific understandings, and bureaucratic environmental expertise. Furthermore, they assert a view in which the spiritual and material, past and future, and various components of biophysical matter are all interlinked. This challenges the recommendations of site rehabilitation and recovery following mining; in this view, removing heavy mineral sands would destabilize these interlinked relationships. Building on this case, I also suggest greater attention to understandings of spirits in ontologies often envisioned as exclusively "environmental," building on a limited body of recent work on the challenges environmental managers face in contending with spiritual worlds and beliefs (Theriault, 2017). Finally, I suggest that these local ontologies inform demands for mainstream—but desired and desirable—forms of development (Gidwani, 2002), which are set against the anticipated effects of extractive development and its erasure of other, possible futures.

In Chapter 4, overflow refers to multiple ways of "placing" the population affected by the mine, and the ways that varying geographical identities generated solidarities, leverage, and contradictions. While theories of population often address place through the lens of territory

(Foucault, 2007; Moore, 2005), I suggest that territorial logics, while utilized in certain moments in placing the population, are neither the only nor the most important spatial valence of the "population" in the Niafarang Project. In response to ambiguity in the Senegalese Environmental Code about who counts as "population", that must be consulted and grant approval to any proposed development project, activists involved in the Committee enrolled numerous villages, foreigners, and stakeholders into the "population" in attendance at public forums, generating a mass of differently positioned people to speak against the mine. This also included tapping into longer historical resentments in Casamance and connecting with the Movement of Democratic Forces of Casamance, who viewed the Niafarang Project as yet another example of Senegal's "colonization" of its southern region. In some ways, this aligns with work on jumping scale (Haarstad & Fløysand, 2007; Smith, 1992) and the politics of scale (Delaney & Leitner, 1997; Kurtz, 2003; Swyngedouw, 1997), which suggest that scale politics are deployed to increase the leverage and visibility of otherwise atomized, localized movements across geographic space and to align with administrative scales where problems can be redressed (Kurtz, 2003; Towers, 2000). However, I argue that a nuanced notion of *place*—understood as networked, scaled, and at times territorialized—better articulates how the population's locations in geographical space often drew on ambiguities, non-territorial logics, networks, and cultural areas to produce an excess of meaning and involvement.

Yet the ambiguities at stake in determining the who and where of the "population" also were used by some state actors, local residents, and the environmental consultant on the project, to justify "popular" approval by a smaller and more exclusionary group. This hinged on a counter-placing of the population that legitimized only the voices of those represented as the "autochthonous" population through their historical territorial claims.

In conversation with work on the performance of state spatialities, Chapter 5 argues that state actors involved in the negotiations worked to cultivate what I term a *lateral state spatiality* of governing “alongside” the population, downplaying the vertical hierarchy “over” the locality that has been addressed elsewhere in this literature (Ferguson & Gupta, 2002). Ethnographies of the state have suggested attention to the ways in which states are not homogenous entities but are instead effected through everyday performances (Blundo, 2006; Ferguson & Gupta, 2002; Mountz, 2010; Painter, 2006), as well as political spectacles (Björkman, 2015; Geertz, 1980; Larkin, 2008). They also are enacted through discourses and interactions with ordinary people that depend on cultural intimacy, affective ties, and horizontal connections (Herzfeld, 2005). In my case, the particular forms that “governing alongside” took were reflective of broader cultural paradigms, but also responded to decentralization reforms, stated commitments to participatory development, and, in the context of the mining project, the tensions involving the MFDC and the desire to avoid reigniting conflict.

However, these attempts to enact relations of laterality in the negotiations failed for two inter-linked reasons. First, they were critiqued and challenged by village residents, who viewed the government as normatively accountable to the people, expected to act from above to protect them. Second, amid these debates, state actors increasingly asserted vertical authority to manage the negotiations, even as they eschewed it.

Finally, Chapter 6 addresses the overflow of corruption talk, and the ways in which rumors and accusations pushed up against the official record of how the mining project ultimately received popular approval. While company and government documents made the process appear legitimate, according to Senegal’s own laws as well as the expectations of international sources of funding for the Niafarang Project, corruption talk emphasized the illegitimate transfers, individualized

promises, and secret bribes that made official consent possible. Following Anna Tsing (1993) and Luise White (2000), I interpret these corruption rumors as windows into broader social worlds. While much corruption talk has been theorized in terms of how this enacts and critiques "the state" (Blundo, Olivier de Sardan, Arifari, & Alou, 2006; Gupta, 1995, 2005; Lazar, 2005), I suggest that the accusations of corruption in this case focused on local residents seen as "selling out" to the mine, and were thus reflective of understandings of local moral economies (Olivier de Sardan, 1999; Pierce, 2016; Thompson, 1971), and of perceived violations of these moral economies through "self-interest." In turn, village residents used these complaints about irregularities, corruption, and political informality in continuing to reject the project and push state actors back into negotiations.

This, then, is a story of a particular historical, political, and geographical moment at which the community, experts, state actors, and (at a distance) the mining corporation were all involved in contestations in the long approvals phase of a mining project. It is a story that presumes neither the inevitability of domination by foreign capital and the state, nor privileges the uncomplicated and heroic resistance of social groups. Instead, taking seriously the contingencies and open-endedness of the negotiations, it shows how people revise histories, exploit overflows, imagine futures, and live in the present amid the indeterminacies of extractive development.

Prelude: Mapping the Mine

As I sat on a woven mat under the trees in Kabadio, a group of men explained to me the extent of the Niafarang Project. Demba, a man who was known to be for the mining project, traced the size of the mine with his finger in the sandy soil as he spoke: 20 meters wide, and 40 meters deep… The other men interrupted; one added additional lines to Demba's sketch, explaining that it was not just that hole—they would dredge the entire length of the dune, all the way to Abéné. The men argued, offering competing lengths, widths, and extents. Some referred to the project not as mining a six kilometer length of dune, but an area of 700 km^2. These debates about the ultimate size and impact of the mining project was an important part of how people conceptualized of the project and its effects. How could a "small-scale" mine be six kilometers or 700 km^2? And in agreeing to this particular project, what exactly would people be agreeing to?

In part, resistance to the mine stemmed from scalar disjunctures between the length of dune that would be exploited in Niafarang, and the prospective cartography of the mine, as represented through the 2004 exploration license. The exploration permit obtained by the Carnegie Corporation in 2004 was for an area of 740 km^2 (Coetzee, 2013), which allowed company scientists to test for the presence of viable amounts of heavy mineral sands across an area that effectively covered the entirety of the coastline south of The Gambia. Images of the full exploration area and of specific test sites within it were made available to community members by the environmental consultant on the project, as well as being publicly available on the internet.

The image of this more expansive exploration license was imprinted in how community members understood the scale and extent of the project, and it affected their opposition. The importance of the exploration license's prospective cartography was made manifest during a public meeting with a state administrator and elected local officials (élus locaux). One man, a vocal and

energetic retired military officer, approached the panel of officials, furiously waving a laminated copy of the map of the exploration license in the air. “This mine is for the entire Casamance coastline,” he bellowed. “Senegal hasn’t yet managed to develop, in spite of existing mines. We need to resolve the underlying problems before opening another mine.” The map of the exploration areas, representing the potentiality of extraction, entered into the debate, as a template for constructing the spatial extent of impacted areas as possibly including all of the Casamance estuary.

In Senegal, exploration permits are renewable a total of two times, every three years. With each renewal, the exploration area diminished; in 2007, it was limited to 550 km^2, and in 2011, to 410 km^2 (Coetzee 2013). In more recent company documents, this surface area is stated to be 397 km^2, revealing a progressive scaling down of the proposed project and more targeted geological testing.

While the Niafarang Project was a small-scale mining proposal, it portended future extraction through the resource potentiality represented by the exploration license maps and the various measurements of length and area that circulated frequently. In company documents and on its website, Astron refers to “Stage 1 of the project, based on a 6 km deposit of heavy minerals,” leaving open-ended what, where, and when future “stages” might be (Astron Limited, 2016). Meanwhile, a Dakar-based mining company, West African Investment Holding, acquired exploration rights for heavy mineral sands in an area of 187 km^2 in the Karon Islands in 2013 (West African Investment Holding SA, 2018). This indicates that while the Niafarang Project may be one small mining project, the future of Casamance estuary, its tangles of mangrove channels, and its lifeways may be more broadly impacted by the geological accident of straddling valuable

mineral reserves, now in demand by multiple companies. It also means that the scale of mining—by Astron, and by others—remains an open question for the future.

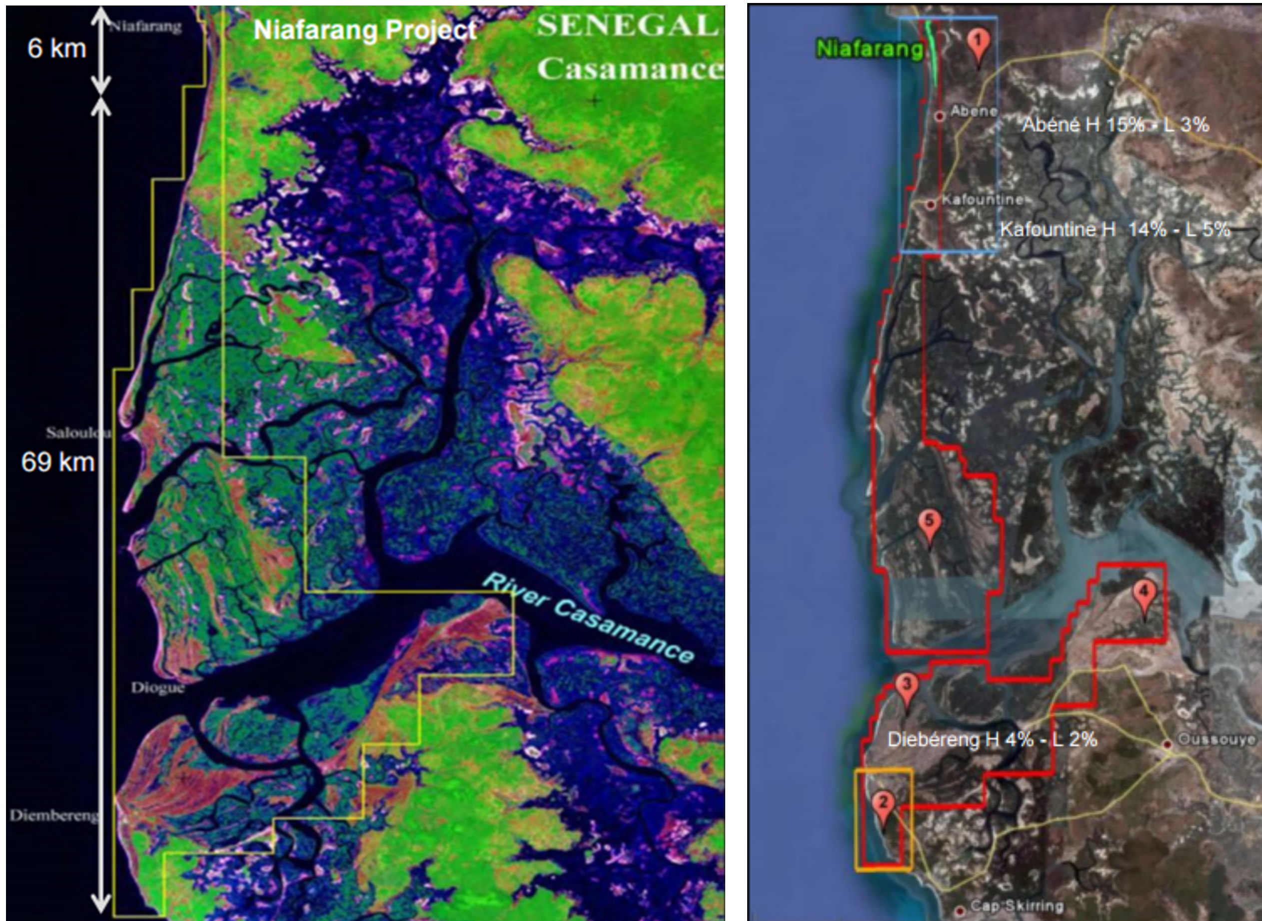

Figure 1: Maps of the exploration license (Coetzee, 2013)

These maps, from company documents, display the area of the exploration license (left) and the areas in which the company drilled for mineral samples (right), stretching from Niafarang to Cap Skirring, near the border with Guinea-Bissau.

Chapter 1: Notes on the Village and the Region

(Contested) Village Histories

The village of Niafarang is located just south of the Gambian border, adjacent to the Atlantic Ocean. According to census statistics collected by the Senegalese National Program for Local Development (*Programme National de Développement Local*) between 2008 and 2011—the most recent date available—Niafarang's population was then at 195 people, distributed across sixteen living compounds ("Programme National de Développement Local," n.d.). In 2016, local residents estimated the population to be around 250 people. This population includes French, Dutch, and Norwegian residents who live part-time on the dune or on village land, people who have moved there from The Gambia or from elsewhere in Senegal, and a small group of Manjack families who fled from Guinea-Bissau during that country's civil war and settled in the northern section of Niafarang. It is administered by and represented in the district of Kataba 1.

The majority of the population of Niafarang is Kalorn (also Jola-Karon or Karoninka) and practice a combination of Catholicism and traditional religion. This group has its origins in the Karon Islands, south of the large fishing village of Kafountine (population 5931, as of 2008-2011), which is south of Niafarang (see Figure 2: Map of Selected Locations (Ashley Fent)). Many long-time residents of Niafarang, including families in positions of leadership, trace their family origins to locations in the islands, including Boune, Kouba, Hillol, or Saloulou. Because of their relative isolation in the islands, the Kalorn have long been viewed as backwards by other Jola groups, such as the Floup, Kassa, and Fogny (Mark, 1985, p. 21).

Niafarang is one of a small number of Kalorn-majority villages in an area known as the Fogny-Diabangcounda, which is largely populated by the Kujamaat (Jola-Fogny) and punctuated by a series of powerful Mandinka villages. Both of these groups are dominantly Muslim, in contrast to the Kalorn. The Mandinka villages exert a strong amount of political control, are among the few villages connected to the electricity grid, and have relatively larger populations.[1]

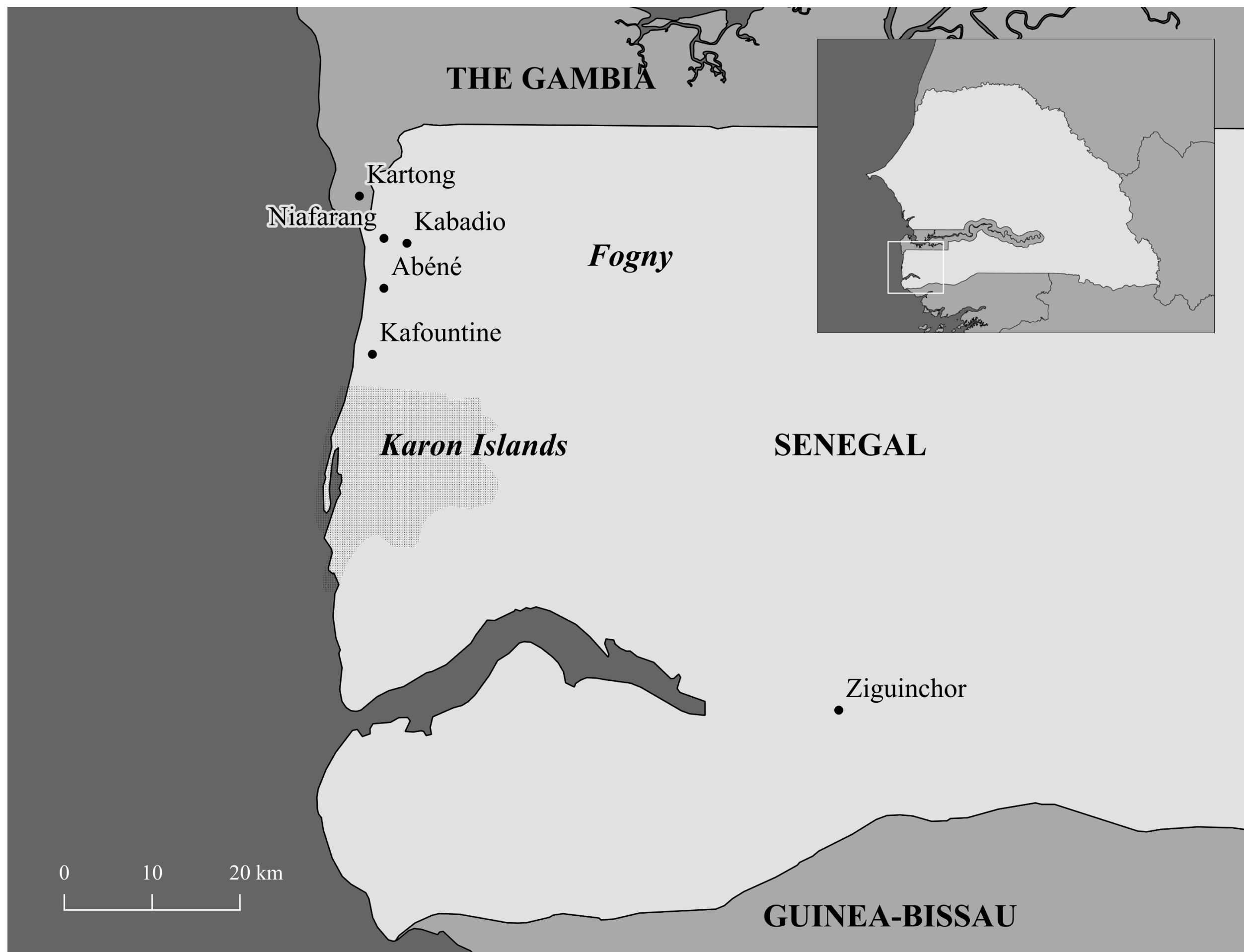

Figure 2: Map of Selected Locations (Ashley Fent)

[1] For instance, the Mandinka village of Abéné, south of Niafarang, has an estimated population of 2998, as of 2008-2011; Diannah, southeast of Niafarang, has a population of 4496; and Kabadio, east of Niafarang, has a population of 2266 ("Programme National de Développement Local," n.d.). Abéné is also a tourist site and a major fishing location. Itinerant fishermen from northern Senegal often rent living spaces from established families in the village.

Historically, relationships between these villages have included relations of cooperation as well as relations of tension and conflict. However, the way these relationships are narrated are dramatically different between the villages and hinge on paradoxical first-comer claims to "autochthony." Carola Lentz (2013) notes that first-comer narratives are "intellectually and emotionally attractive" (p. 18), but that they "are inherently contradictory because they combine notions of mobility (having come first implies having immigrated from somewhere) with the apparently natural legitimacy of being autochthonous (having been there before the arrival of others)" (p. 19). In the context of the Niafarang Project mining negotiations, first-comer claims were differently articulated to legitimize the right to speak for the population and make decisions about concessions of land for mining. This echoes Michel-Rolph Trouillot's claim that historiography is partial and politicized by the events of the present, producing new kinds of visibility and erasure within that context (Trouillot, 1995). I offer here two competing histories of inter-village relationships and first-comer claims, as they were recounted to me by village residents, supplemented with additional sources as necessary. These are important in understanding the mining negotiations because they were reshaped, re-articulated, and re-asserted in ways that reflected competing claims to land and decision-making.

In Kabadio, village elders traced village lineages to the Empire of Kaabu[2], a powerful Mande vassal state of the Mali Empire, located between the Gambia River and Rio Corubal in present-day Guinea-Bissau (Barry, 1988). According to local oral histories, Kabadio was established by Mansa Dambel, a Bambara king (*mansa*) who migrated from Mali and was crowned by the Kaabu Empire. During the peak of its power in the sixteenth and seventeenth centuries, Kaabu conquered the Banyun states of the Bainouk, trading peoples widely held to be indigenous

[2] Also spelled Gaabu, Ngabou, or N'Gabu'.

to the coastal mangrove swamps of western Casamance (Mark, 1985; Pélissier, 1966). Kaabu installed Mande leaders to rule over Bak-speaking Kujamaat in the Fogny and other Bak-speaking groups in the Floup and Kombo regions (Barry, 1988).[3]

In exchange for his service to Kaabu, Mansa Dambel was instructed by an oracle to settle, according to legend, where he found "water as far as the eye can see." Arriving at the Atlantic Ocean, he and his followers established a village a few kilometers from the present-day village of Kabadio. According to elders, Mansa Dambel and his followers had wanted to establish the village in present-day Kabadio, or near Kartong (The Gambia), on an island called Dankok, but the Bainouk were there. The oracle had also told the Mansa that he would find the area inhabited, but instructed him not to kill the residents; instead, he was to wait for reinforcements from beyond. Eventually, the Kaabu king sent his troops, and the Bainouk were slaughtered or assimilated into both Mande and Bak-speaking groups. Mansa Dambel and the Kaabu Empire forged an agreement in Kabadio. The name Kabadio reputedly refers to this agreement and the payment of tribute: "*Kaabu joo*," to pay Kaabu. The agreement also established a long-standing *cousinage à plaisanterie* (joking kinship) between the Kaabunke (literally, the men of Kaabu) and the Kombonke (the men of Kombo, the historical area in which these villages were located). Even until the present, said elders, Kaabunkes have the right to arrive unannounced at the home of a Kombonke and demand a part of the meal—specifically, the rear flank of the animal, because the

[3] Participation in the European slave trade enriched the Mande states, and led to the formation of a Soninke warrior caste. The Soninke raided coastal communities of Bainouk, Balanta, and Kujamaat for slaves and used the trade to develop internal hierarchies of social and economic stratification (Rodney, 1975). Subsequent work has suggested that Jola groups were also involved as slavers, not simply raided by other groups—albeit to a lesser degree (Baum, 1999).

Kaabu Empire had demanded in the initial agreement the right to the part of the cow which came out first at birth.[4]

The original settlement was named Katana, which village elders translated as "a place where no harm can occur." But in Katana, a village leader had tried multiple times to conceive a child, with no success. This led villagers to consider the location cursed. After the Kaabu conquest of the Bainouk, the village was relocated to present-day Kabadio.

Over time, male members of the Diabang[5] family installed themselves as chiefs of a number of villages in the area, ruling over majority Bak-speaking populations, who in some cases acculturated and came to identify as Mandinka.[6] Today, the five main Mandinka villages in the Fogny-Diabangcounda are all led by *alikaalilu* (village chiefs) in the Diabang family.

In the nineteenth century, amid the wars between Islamized Mande *marabouts*[7] and animist Soninke Mande kings, the Diabang were among the first to convert, and participated in converting much of the Fogny to Islam. Those Bak-speakers who refused to convert often fled into the Karon Islands to the south of present-day Niafarang. Islamization of the Mandinka also entailed the destruction of their shrines, which dated back to the reign of Mansa Dambel. The last remaining

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[4] In one iteration that I heard, this agreement was used as part of a joke among male elders in Kabadio. They were jokingly debating a fictitious story in which a Kombonke arrived in a Kaabunke home, and, finding a group of women there, he raped one. The Kombonke in the group of men argued that this was permitted by the *cousinage à plaisanterie*—the Kombonke are, after all, entitled to the rear flank of the animal. Though the joke itself made me—the only woman in the group—highly uncomfortable, it demonstrated the ways that these histories still come up and continue to matter in how people understand their relations and rights relative to one another (fieldnotes, 11 March 2016).

[5] The family name Diabang, according to oral tradition, refers to the family patriarch's occupation as a diviner, skilled in the art of reading cowry shells—*cauris*, in French (fieldnotes, 29 June 2015).

[6] The second part of the region's name—the Fogny-Diabangcounda—means "home of the Diabang" in Mandinka.

[7] Marabout refers to Muslim clerics.

tombs and shrine of the Diabang in Kabadio, behind a large baobab in the village, were destroyed in the name of Islam one generation prior to the current leadership (fieldnotes, 29 June 2015).[8]

A primarily agricultural people, the Mandinka had little need for access to the fishing sites or oyster-covered mangroves along the coast in present-day Niafarang, but did bring its low-lying fields under rice cultivation. They also established a mosque there, naming this area Misira ("mosque" in Mandinka). It later became a colonial outpost following French colonization of the area.

Kalorn seasonal laborers came up from the Karon Islands along the coast, to tap palm wine and collect palm seeds (for palm oil) after the conclusion of the rice-growing season. Eventually, some of these laborers obtained permission from the village chiefs of Kabadio and Abéné to settle permanently in the coastal community of Misira. They re-named the village Niafarang, and appointed a separate, Kalorn chief. However, the villages' chiefs agreed to share the responsibilities of granting land titles; eventually, they divided parcels for each to administer and control.

However, village elders in Niafarang recounted this history differently. First, they stressed their independent payment of head taxes to the French colonial administration in Diouloulou. This history of direct payment (rather than payment to the Mandinka village, which would then pay both sets of taxes to the French) solidified claims to land and their right to participate in decision-making about the mining venture, in the present.[9]

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[8] However, the spirits were still active, said one member of the ruling family. He had once received a knock on the door amid construction near the sacred baobab, by one of the village marabouts. Upon answering, he found that the faint voices he heard could only be ghosts (fieldnotes, 29 June 2015).

[9] Niafarang elders encouraged me to consult the tax records stored in the archives in Diouloulou. When I asked state officials about accessing the archives, I was informed that they had been destroyed when the MFDC's Diakaye faction attacked the district office in 2006, assassinating the then-administrator, Gorgui Mbengue. Residents insisted that this was untrue, and that the assassination had occurred far from the office. In any case, I was unable to access archival materials supporting this claim.

Additionally, some Niafarang residents argued that they shared a common genealogy with the Diabang leadership. They recounted that the Diabang also came up from Guinea-Bissau to engage in rice cultivation, first settling in the Karon Islands, and then moving northward. They had originally been Bainouk, said some residents. One night, as a group of men and I shared calabashes full of milky white palm wine in the dark undergrowth of the forest near one village elder's home, the elder explained this history. A friend, Joe, leaned over to me to translate: "We're all Bainouk. Before there was such a thing as the Karoninka [Kalorn], we were all Bainouk" (fieldnotes, 9 March 2016). The men discussed this, noting that it was during the wars in the Kaabu Empire that the Jola, the Balantas, and others all fled north.

"There are only two family names that are truly Jola: Diedhiou and Badji," insisted my friend Chérif. "My name, for instance, is Balanta. I'm 100 percent Jola, I bleed Jola, but I know if I go back in my history, I'm Balanta" (fieldnotes, 9 March 2016). He explained further that as various groups fled, they settled in established communities and took on the identities and ethnic affiliations of those with whom they lived.[10]

Ethnic fluidity and acculturation was used to argue that the Diabang themselves were not truly "Mandinka." On another very similar evening, drinking palm wine with the same group of men under the *jembering* near one man's fields, Joe told me, "If the Mandinka claim that we're strangers here, then where do they come from?" He continued, "The Diabang, they're from Kouba, in the [Karon] Islands, like us. Diabang? Mandinkas? No… it's not possible! It's like a Mandinka Diassy! They don't exist. Sylla, Sané, Dabo… these are the Mandinkas. Not Diabang" (fieldnotes, 3 March 2016).

[10] In long-term Jola interactions with the Mandinka, north of the Casamance River, cultural processes and cultivation have been observed to shift with Islamization, coming to resemble hierarchical, gender-segregated Mandinka forms of social organization rather than more egalitarian systems characteristic of the "Jola" (Kujamaat, Kalorn, and Jola-Kassa, all of whom speak what are considered dialects of a similar language) (Linares, 1992).

"So why do they claim that they are all Mandinka?" I asked.

"All of this area, from the Islands to Banjul [in The Gambia], used to be for the Karoninkas. But there was the *jihad*, coming out of Gunjur, led by Kombo Sylla and his nephew Foday Kaba. It was in the *jihad* that the Diabang became Mandinka."

At this, Chérif interjected: "You can't be Muslim and Jola, because if you are Muslim, you can't drink alcohol, and palm wine is central to Jola culture." In addition to stressing the fluidity among ethnic identities, prior to the colonial period[11], this supported a final claim made by the Kalorn amid the mining negotiations: that the Fogny, where they were considered "newcomers" and "guests" of their Mandinka hosts, was part of the historical, traditional territory of the Jola[12].

People also explained the history and etymology of the village's name—a Mandinka word—in ways that were inflected by the tensions amid the mining negotiations. After some reflection, one village elder in Niafarang suggested, "It might come from *A na faraa*, which means 'we're going to annex it'" (Interview #34, 27 Sept. 2015). Another Niafarang elder offered a slightly different interpretation, which Joe explained to me in English and Wolof: "It's like… *dafa séew*." He grabbed at the air, making a fist. "You can grab onto it" (Interview #33, 27 Sept. 2015 interview). These suggestions and ideas were as much reflective of the current political moment, as the "actual" origin of the name. When I asked Vélo, an elderly woman in Niafarang, she guessed that it could be *A ñafta le*, which my friend Chérif translated for me as "s/he took it." She suggested

[11] It was largely in the colonial period that ethnicities became fixed (Mamdani, 1996)—as, indeed, it was under colonialism that the cultural, economic, religious, and political continuities and conflicts between the Kombo, in The Gambia, and the Fogny, in Casamance, were broken up by imperial territories and borders. As the story often goes, the French confronted strong and persistent resistance by egalitarian societies in Casamance (Pélissier, 1966; Roche, 1985; Boone, 2003), which they grouped together as an ethnicity known as the "Jola," an exonym attributed to the Mandinka or the Wolof (Mark, 1985). However, the often essentializing view of the Jola as "egalitarian" has also been used by Senegalese politicians to undermine the regional separatist movement (Lambert, 1998, pp. 592–594).

[12] This latter argument is supported by Steven Thomson's account of the nineteenth century maraboutic wars, which led Bak-speaking populations resistant to conversion to flee southward and into the Karon Islands (Thomson, 2011).

that this referred to merchandise, as the village had housed a customs office and trading post under French colonial rule (Interview #43, 1 March 2016). When I asked elders in Kabadio about the origin of village names, one considered it for a moment, giving a very different answer. "It's from *nyaa faro*," he said. "In front of the rice fields."

Regional Background

To understand how a relatively small project became entangled with regional politics also requires some background information about the region, as well as the roots of the Casamance conflict and the formation of the *maquis* (the resistance or insurgency, a term used by the MFDC to describe their organization.

It has been suggested that the name comes from the Portuguese explorers in the region, who referred to it as *Casa Mansa*—the house of the *mansa*, referring to the Kassa rulers who then reigned over vast swaths of the area (Diouf, 2004; Mark, 1985).[13] The toponym was then taken up by the French colonial administration, which first incorporated Casamance as a colony of Senegal in 1886 (Marut, 2010).[14] From Senegalese independence in 1960 until 1984, "Casamance" referred to a region that extended the length of Senegal's southern border with The Gambia.

The MFDC was founded in the 1940s as a multi-ethnic political party seeking to represent Casamançais interests in greater Senegal[15]; it disbanded in 1952. Throughout the 1970s,

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[13] Abbé Augustin Diamacoune Senghor, the founder of the modern MFDC, claimed that this word descended from the Jola word for "river" (Diouf, 2004).

[14] The region was administered as a single colony of Senegal between 1886-95, and then as a "district," divided into between two and five *cercles* until 1944, as though it were a separate French colony (Marut, 2010). Two of these *cercles* were known as *Basse Casamance* (Lower Casamance) and *Haute Casamance* (Upper Casamance)—nomenclature still used occasionally today. From 1944 until Senegalese independence in 1960, the region was comprised of the single *cercle* of Ziguinchor. At Senegalese independence in 1960, President Léopold Sédar Senghor retained this division, but changed the official title of this region to Casamance.

[15] The MFDC as a political party dissolved in 1952 when the Casamançais statesman Emile Badiane joined the *Bloc démocratique sénégalais* (BDS), a political party led by Léopold Sedar Senghor. Though a Sereer from northern Senegal, Senghor was viewed as more strongly representing the needs of Casamance than his political rival Lamine

Casamançais engaged in sporadic protests against the Senegalese administration, most notably surrounding land tenure and the application of the 1964 National Domain Law (*Loi du Domaine National*) (M. Evans, 2004). Inspired by African Socialism and designed to eradicate feudal relations, rural aristocracies, traditional and customary systems, and the Muridiyya Sufi brotherhood's hold on land in the Peanut Basin, the National Domain Law nationalized 95 per cent of Senegal's land, excluding the small percentage already titled as private property (Boone, 2007).[16] In theory, the law established and protected user rights to state land, overturning colonial reliance on autochthony as the basis of land. While in some cases, this served a progressive role in decoupling rights from traditional claims, it was also used to erode communal use rights (Boone, 2007). Casamance, with its fertile agricultural soil, verdant forests, and coastal villages, suffered from these state expropriations for the purpose of outside investments in groundnut agriculture, agro-industry, and tourist facilities, often to the chagrin of local people, who saw these expropriations as an invasion by "Senegal" (Boone, 2007, p. 565). These dispossessions fueled resentments that led to nonviolent demonstrations against the state in the 1980s (Cormier-Salem, 1993; Fall, 2010; Hesseling, 1994).

When the MFDC re-emerged in the 1980s, it was as a Jola-dominated group advocating for independence.[17] Although often interpreted as an ethnic conflict, given ethnic and religious

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Gueye, whose main constituency was based in urban Dakar (Lambert, 1998). Senghor was elected first President of Senegal at independence in 1960.

[16] Land technically owned by the state continues to be an important source of rural chiefs' incomes. Although private titles cannot be granted, chiefs may grant allotments (*affectations*) based on the state's stipulations around use rights. Sometimes, unscrupulous chiefs grant overlapping allotments to the same parcel of land, and land disputes frequently result from the titling process.

[17] In 1982 thousands of protesters marched through Ziguinchor, the regional capital, installing the white Casamance flag at public buildings in place of the Senegalese *tricolour*, while the MFDC distributed pamphlets calling for independence (M. Evans, 2004). The protest descended into violent clashes among Senegalese *gendarmes* and protesters. On "Red Sunday," December 18, 1983, Senegalese forces fired on protesters at the governorship (*Gouvernance*) in Ziguinchor, killing between 50 and 200 people (M. Evans, 2004); throughout the 1980s, violence

differences between Casamance and the rest of Senegal, the MFDC maintains that its demands for nationhood are rooted in historical events (Lambert, 1998).[18] Its territorial nationalist claim is based on *de facto* French administration of Casamance as a separate colony, and protests by European merchants and administrators in favor of financial autonomy in the early 1900s (Lambert, 1998).[19] Taken up by the MFDC, this was used to signify essential and historic distinctions between Casamance and the north. As Ferdinand De Jong argues:

> Father Diamacoune [the leader of the MFDC until his death in 2007] anachronistically represents Casamance as a nation with a long history. In reality, Casamance had never been a political entity until the French colonial administration defined the region as one of its territories and drew its geographic boundaries. The emergence of a Casamance identity did not precede the region's incorporation in the French colony: it was one of its consequences. Since Casamance had never been an independent political entity, Diamacoune's foundation myth of the Casamance nation focuses on Casamance resistance to colonial and post-colonial rule. (De Jong, 1999, p. 18)

As De Jong suggests, the emergence of a Casamance identity was created through French colonization. However, this regional identity has been used by MFDC leaders to naturalize the unity of the region, amid demands for sovereignty.

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escalated between Senegalese forces and the *maquis*, culminating in the MFDC's declaration of armed rebellion in 1990 (M. Evans, 2004).

[18] MFDC representatives and supporters argue that President Léopold Sedar Senghor and Casamançais politician Émile Badiane signed a confidential written agreement that guaranteed independence to Casamance following an initial twenty-year union between the two colonial holdings (Lambert, 1998). In 1978, Father (*Abbé*) Augustin Diamacoune Senghor called on President Senghor to honor the agreement with Badiane, who had died in 1972—a death attributed by some Casamançais to a secret plot by the Senegalese government (Lambert, 1998). The independence movement emerged after the 20 year anniversary of Senegalese independence passed without mention of the alleged Badiane-Senghor agreement (Lambert, 1998).

[19] Historical arguments also suggested that Casamance was previously attached to Portuguese Guinea prior to colonization by France in 1860, and had thus previously been autonomous or a protectorate, rather than a true colony within French West Africa (AOF). These claims were reportedly dismissed as not credible by outside experts in 1993 (Lambert, 1998, p. 600; Williams, 2016).

Narratives of regional marginalization also rest on the idea of "*enclavement*," or isolation as a result of being "cut off" from the rest of Senegal.[20] Rather than responding to an original or exceptional condition, this aspect of Casmançais regional identity emerged out of economic crisis in the 1980s. Casamançais were in fact strongly represented in public sector jobs in Dakar until structural adjustment programs resulted in massive retrenchment, forcing educated and skilled individuals to return to their villages in a reversal of the "rural exodus" (Marut, 2005; Foucher, 2011). Jean-Claude Marut states:

> Their return coincides with the aggravation of the local conditions, due to the drought that also hit the "green Casamance," and due to the disengagement of the state from agriculture and large development projects. This was also when the natives [*autochtones*] found themselves deprived of some of their resources, in the interior of Casamance or outside it, when large numbers of outsiders to the region arrived, attracted by its reputation of natural wealth. Corresponding to the needs of the Senegalese state, sectors like fisheries or tourism effectively offered them great development potential. (Marut, 2005, p. 318, translation mine)

"Casamançais" identity formed in response to the increasing pressures from in-migration and return migration amid layoffs in the national capital, and the desire to exclude "outsiders." Combined, these generated a sense of being marginalized, which was then cast backward into the past, as part of a regional historical legacy and identity.

The MFDC views itself as representing the entire Casamance region and its peoples, drawing on these regional imaginaries. But while the MFDC claims to speak for the region as a whole, its operations are overwhelmingly based in the region of Ziguinchor (De Jong, 1999). This region is predominantly Jola, in contrast to the Mandinka-dominated region of Sédhiou and the Fula-dominated region of Kolda.

[20] *Enclavement* can also be translated as being "landlocked." Applied to Casamance, this would be an odd translation, but the way the term is used conveys the same sense of isolation or hindrance as the term "landlocked" often connotes.

"Casamance" is commonly understood to refer to the present-day administrative regions of Ziguinchor, Sédhiou, and Kolda (for some, it extends all the way to Kédougou, in eastern Senegal). These administrative regions themselves were produced through the conflict, according to informants and some scholarly arguments. Operating under the assumption that the conflict was primarily ethnic (Lambert, 1998), the Senegalese government divided Casamance into three separate administrative regions—Ziguinchor, Sédhiou, and Kolda—in attempts to quell and confine the rebellion. In the process, the Senegalese government also renamed each region, effacing "Casamance" from the map (Marut, 1995, p. 2). Hassane Dramé explains:

> Until the reorganization of 1984, the administrative organizational schema of Casamance for the most part followed the territorial divisions operated by the colonial administration. The reform effected in 1984 is somewhat odd, in the sense that it has a marked relation to the ethnic and religious specificities present in the area. As curious as this may seem, that division perfectly follows the line of ethnic differentiation of Casamance, with a Jola majority in the Ziguinchor region and the dominance of the Mandinka and the Fula [*Peul*] in the Kolda region. Officially, these were not major factors in the administrative reorganization, but it seems that the specific needs expressed by the people [*populations*] of Lower Casamance and their conduct during the conflict led Senegalese leaders to take into consideration the particularities of this part of Casamance. In the strategic plan, this redivision constitutes for the state a means of control and encompassment of this region that is subject to permanent unrest. (Dramé, 1998, p. 5, translation mine)

In this view, the administrative remaking of the region was a direct attempt to secure state control and contain rebellion to particular sub-districts of what had formerly been understood as the Casamance region. Jean-Claude Marut expands on this:

> One could even say that Casamance disappeared twice over: as a territory, because it was split in two (officially for practical reasons, but other, more expansive peripheral regions were not split up), and as a denomination, because the name of Casamance was not taken up to designate the two new regions (the Kolda and Ziguinchor regions). … It is as if all reference to Casamance had to disappear. (Marut, 1995, p. 2, translation mine)

Although categorized as a low intensity conflict, fighing in Casamance involved various human rights abuses on both sides, perpetuated by the MFDC as well as by the Senegalese state. The most intense violence did not begin until the late 1980s, when the MFDC formed its armed

wing, *Attika* ("warrior" in Jola) (Evans, 2007; Lambert, 1998). The conflict resulted in approximately 40,000 internally-displaced people by 2000 (Evans, 2007, p. 64) and an estimated 5000 fatalities, as of 2014 (Marc, Verjee, & Mogaka, 2015, p. 15). Anti-personnel mines were installed throughout the region by both sides, causing fatalities and injuries to civilians and leading many to abandon their fields; Handicap International estimated that landmines killed 1000 people between 1990 and 2008 (Grovestins & Oberstadt, 2015). Demining campaigns began in 2007, and resumed in 2015 after a two-year hiatus in 2013, following the MFDC's kidnapping of personnel working for the South African demining company Mechem.[21] Throughout the conflict, the MFDC has depended on the illegal trafficking of high-value timber, drugs, and other goods across the Gambian and Guinea-Bissauan borders (Evans & Ray, 2013); they also relied on support from successive Bissauan heads of state and from Gambian dictator Yahya Jammeh (Marc et al., 2015), elected in 1994, who was himself a Jola and provided considerable support to Casamançais Jolas in exchange for their willingness to vote for him illegally during Gambian elections (M. Evans, 2004). The conflict calmed somewhat when these governments refused to support the MFDC and put their support instead behind President Abdoulaye Wade's peace negotiation efforts in the 2000s. In peace negotiations, some branches of the MFDC agreed to regional self-determination rather than regional independence—but the territorial, cultural, and historical imaginary of the region still holds among many. The most recent peace treaty was signed in 2014; meanwhile, the

[21] Between 2007 and 2012, Handicap International contributed to the clearance of landmines from 1,800,000 square meters of land in Senegal's southern regions (Handicap International, 2018). Demining operations were halted when César Atoute Badiate's faction of the MFDC captured 12 Senegalese deminers working for Mechem (IRIN, 2013). With funding from the U.S. Department of State, Handicap International resumed its demining operations in the region in 2015 (Handicap International, 2018). In 2016, Handicap International conducted surveys in 80 localities near the northwestern portion of the Senegal-Gambia border (the area in which Niafarang and the rest of the Fogny is located). Access to this area had previously been precluded by security concerns (Landmine and Cluster Munition Monitor, 2017). Handicap International's surveys found some mined areas in the Bignona Department, but larger areas were identified in Goudomp, in the Sédhiou Region, and Oussouye, south of Ziguinchor (Landmine and Cluster Munition Monitor, 2017).

election of Adama Barrow in The Gambia in 2016 and Jammeh's subsequent exile have also weakened the MFDC's sources of support.

Chapter 2: The Oppositional Life of an Environmental Impact Study

"The advent of writing is the advent of play; today play yields to itself, effacing the limit starting from which one had believed it possible to regulate the circulation of signs … [I]t is not by chance that this *overflowing* supervenes at the moment when the extension of the concept of language effaces all its limits. We shall see: this overflowing and this effacement have the same sense, are one and the same phenomenon."
–Jacques Derrida ([1976] 2016, p. 7)

Introduction

A vocal critic of the controversial mining proposal in Niafarang since the early 2000s, Mohamadou owns a copy of the Environmental and Social Impact Study (EIES) conducted for the project. Bound with a black plastic spiral and thin transparent plastic cover, the 147-page document resides in Mohamadou's dark, labyrinthine house. Getting away from the heat one lazy afternoon, Mohamadou and other men were conversing and preparing *attaaya*—sugary green tea prepared in three courses and served in small glasses—at a tourist campsite they collectively owned and operated, which was financed by a French investor but mostly remained without guests. That day, the EIES sat on one of the wooden tables, and the men casually flipped through it, debating various points contained within it.

The original owner of the project, Carnegie Minerals PLC, conducted exploratory studies in 2004 and commissioned an EIES in 2007. However, the project has been stalled in negotiations largely because of public opposition to the EIES, which was conducted by a Dakar-based consulting firm and was made available to the community in hard copy. As both a material and representational object, the EIES became enrolled in oppositional work, disrupting expectations among the mine's proponents that its approval would be a mere procedural step toward the awarding of a mining license.

This chapter argues that environmental impact studies are forms of environmental government that emerge from oppositional and take on further oppositional lives, overflowing

their framing as depoliticized bureaucratic documents. Here, I draw from work conceptualizing overflow—through which externalities exceed the framing work of economics (Callon, 1998) and meaning exceeds language (Derrida [1976] 2016)—and the use of this concept by Karen Hébert (2016) in describing the repoliticization of an environmental impact assessment in Alaska. In Niafarang, contestations have unfolded both around the EIES as a material text, as Mohamadou and his friends' interactions with the document show, and as a text that represents the materiality of the human-nonhuman world in particular ways. The EIES used various framing devices, measurement techniques, and graphic visualizations to evaluate potential environmental consequences of the mine; these strategies to define, contain, and control possible effects were critiqued by the Committee and others for their overflows—the "outsides" they produced through the act of framing.

Beyond this, the EIES—a technology that has come to neutralize environmental risks by presenting them as predictable and manageable—has also furthered objectives of resistance, taking on new meanings in the Committee's opposition to the mine. Stressing the individual consultant's conflict of interest and the inaccurate environmental predictions within the document, the Committee was able to connect with international networks and national-level politicians, to generate visibility and debate in multiple arenas, to position the EIES in the context of legal stipulations in the Senegalese Environmental Code about the conduct of environmental assessments, and to utilize the EIES to disrupt and indefinitely delay the mining project. This is what I refer to as the document's oppositional life—the way in which a governmentalized technology becomes useful in producing "unruly" debate and resistances.

Documents, Prediction, and Power

Texts have been seen as objects of discursive power (Foucault, 1980, [1972] 2010) and as reflecting irreconcilable dualisms, bound up with and containing unescapable context (Derrida, [1976] 2016). Focusing more broadly on textual archives, Elizabeth Povinelli (2016) and Ann Stoler (2002) have stressed that documentation involves history-making and future-projecting, exerting authoritative power over inclusion, erasure, and narrative. Documents and texts have been analyzed as material objects in production and circulation, with attention to how they are assembled and curated (Riles, 1998), reproduce state power and religious and legal authority (Messick, 1986; 1989; 1993), and enact performative functions within modern government and bureaucracy (Gupta, 2012; Hull, 2012). This approach to documents is rooted in the importance of ordering, legibility, and planning in extending and enacting governmental power (Ferguson, 1994; Scott, 1998). Power shapes textual meaning through discourse, which seeks to contain excess and the bound off context.

In particular, texts reflecting scientific expertise deploy models and statistics to make the social and natural worlds measurable and predictable, calculating risk and probability (Beck, 1992; Foucault, 2007; Hacking, 1990; Jasanoff, 2004b). Technologies of prediction perform a legitimizing function within the Niafarang Project EIES, solidifying it as a form of scientific expertise. Prediction, as a particular disposition toward the future, emerges from the ability not only to calculate risk (Beck, 1992) but from technologies and techniques of anticipation, designed to intervene in imagined, feared, or predicted futures through prevention or mitigation (Anderson, 2010).

As a form of interested and predictive expertise, Environmental Impact Assessments (EIA) have been critiqued for their prioritization of Western models of scientific knowledge and neglect

of indigenous knowledge and participation (Holifield, 2012; Stevenson, 1996), and their failure to address social impacts (Bedi, 2013; Gismondi, 1997). EIAs also "systematically underestimate and conceal negative environmental impacts through data collection strategies that fail to record adequate baseline data and preset misleading averages, naturalize industrial impacts, conduct deceptive demonstrations, manipulate the politics of time, and strategically manage information" (Kirsch, 2014, p. 152). The impacts of mining projects regularly exceed EIA predictions, and scientists conducting them are rarely held accountable (Kirsch, 2014, p. 135). Much as economic calculations and concepts have been argued to *produce,* rather than simply measure, the ontological object of "the economy" (Çalışkan & Callon, 2009; MacKenzie, 2004; Mitchell, 2008), EIAs construct the environments they purport to analyze (Corvellec & Boholm, 2008) and sometimes work to promote developmental justifications rather than assessing ecological and social concerns (Bedi, 2013). Omissions and predictive uncertainty are inherent in EIAs, even as they present impacts as governable through technical corporate expertise (Barry, 2013) and knowable in advance. In many cases, the only risks discussed are those already considered manageable (Li, 2015).

This attempt at controllability is rife with exclusion and effacement, and it is also incomplete. This incompleteness of control over meaning, and the hidden inclusion of the "otherwise" within the archive itself (Povinelli, 2016), is productive of possible oppositions. Environmental expertise is frequently the subject of "contentious politics" (Leitner, Sheppard, & Sziarto, 2008) and contestations between governmental, technical forms of environmental knowledge and multiple local, indigenous, or alternative scientific knowledges (Birkenholtz, 2008; Lowe, 2006). Meanwhile, public knowledge controversies (Whatmore, 2009) have increasingly called into question what counts as scientific fact (Pellizzoni, 2011). Using technologies of

government for their own purposes, communities have appropriated bureaucratic documents for subverting power (Allard & Walker, 2016); for instance, Aboriginal communities have used environmental assessments to advance job creation demands in pipeline projects (McCreary et al., 2016). In this sense, EIA debates may serve as "weapons of the weak" (Scott, 1985), through the production of delay, or as non-strategic "oppositional practices" that are themselves an "art of the weak" against power (de Certeau, 1980, p. 6), allowing for access to resources through appropriation of legal, personnel, or enforcement loopholes (Bayat, 2000; Silver, 2014). The oppositional life of documents, produced through contested interpretations of inclusions and exclusions, thus disrupts the always incomplete and ongoing project of (environmental) governmentality.

Making Projects "Bankable":[1] International Eco-Governmentality and Environmental Impact Assessment in Senegal

Originating in the United States in the 1960s and 1970s amid the environmental movement (Hironaka, 2002), EIA has been worked into national legislation around the world. The number of nation-states with EIA legislation increased from one in 1970 to over 50 by 1993 (Hironaka, 2002), and has continued to rise. According to Ann Hironaka (2002), this is mostly attributable to pressures and encouragements from the global environmental regime, rather than a result of domestic priorities (see also Frank, Hironaka, & Schofer, 2000). International institutions have encouraged nation-states to adopt EIA legislation by emphasizing environmental issues in national policy-making and international finance (Hironaka, 2002; see also Goldman, 2005 on the World Bank); packaging EIA procedures, guidelines, and legislative language for easy and streamlined

[1] This is a play on an elected mayor's words. A former banker, he stated, "They need to do a serious impact study, so that we can implement all bankable projects (*tout projet bancable*) for the development of our localities" (Interview #38, 25 January 2016). It also resonates with recent work on rendering land "investible" (Li, 2014).

adoption; and taking a consultative role and presenting seemingly objective data about assessment procedures (Hironaka, 2002, pp. 67–68). The World Bank and other development banks played an influential role in the spread of EIAs, requiring them as a condition of project financing—what has been termed an environmental conditionality (Batterbury & Fernando, 2006, p. 1857; Mol, 2011; Vandervorst, 2000). In 1989, after decades of pressure from environmental groups, the World Bank mandated environmental assessment for projects with potentially significant environmental impacts (Haeuber, 1992; Hironaka, 2002, p. 70; World Bank, 1991, p. 1). Although the Bank required EIAs only for its own investment projects (and not necessarily as a national requirement), many countries in the Global South developed EIA legislation in response (Hironaka, 2002).

EIAs entered Senegal with the passing of the Environmental Code Act of 2001, *Loi N° 2001-01*, which overhauled the 1983 Environmental Code Act, *Loi N° 83-05*. Demonstrating the influence of international norms on policy adoption, the justification for the new law was based on conforming to Agenda 21 (the non-binding accord on sustainable development by the United Nations in Rio in 1992), new strategic planning tools (such as the National Plan of Action for the Environment), and new juridical texts. The act also noted the importance of impact studies as elements of environmental decision-making, the conformity of national law to international conventions signed and ratified by Senegal, and the need to account for principles of environmental protection, including sustainable development, conservation, and sustainable consumption (République du Sénegal, 2001, pp. 1–2). While the 1988 Mining Code required minimal environmental evaluation (République du Sénégal, 1988, p. 10), the Environmental Code imposed systematic standards and regulations, including requiring an in-depth environmental evaluation (EEA, *évaluation environnementale approfondie*) for Category 1 projects, deemed to have

potentially significant impacts. In practice, assessments are expected to address both environmental and social impacts (Interview #23, 2015).

Environmental and social impact assessment in Senegal involves four important actors: the project promoter (the company or individual pursuing a project); the administration, including the Ministry of the Environment and Sustainable Development (MEDD) as well as a Technical Committee comprised of representatives from various relevant ministries; the consultant, who conducts the study (Interview #13, 2014); and the population, who must be consulted both during the impact study and after its completion (Interview #23, 2015). The report of the initial public consultation is included in the draft assessment, while popular validation of the assessment in the course of a public forum often appears as an annex in the final assessment on file in MEDD (as a list of public forum attendees and their signatures). The construction of this "population" as an actor in the environmental assessment process is the subject of Chapter 4.

The promoter informs MEDD of its intentions; this determines the project category and whether an in-depth evaluation is needed. The promoter then hires a consulting firm approved by MEDD, and the consultant hires experts in the fields deemed necessary to conduct the study. After data collection and analysis, the consultant writes the assessment, including environmental and social evaluations, the public consultation report, and recommendations. The finished report is submitted to MEDD and reviewed by the Technical Committee. The Technical Committee determines the validity of the assessment, sometimes requiring additional data collection in order to ensure the assessment's conformity to laws and standards. The assessment is then revised and corrected, with the final version validated through popular approval in a public forum.

The Niafarang Project EIES and its Technologies

Carnegie, a subsidiary of Astron, hired a consulting firm I refer to as Equilibria to conduct the EIES. Equilibria is managed by a trained geologist and environmental scientist, Idrissa Diop, who hired two environmental geographers, a hydrogeologist, a geologist, a naturalist and specialist in Health, Safety, and Environment (HSE), and an environmental sociologist for the EIES. Biophysical data collection and analysis occurred in 2007, and public consultation occurred through interviews with stakeholders in three villages on May 11 and May 13, 2008.

The mine site to be dredged from north to south is located on a sandy dune between mangroves and sea to the west, and homes and low-lying rain-fed rice fields to the east. On the dune itself, only seven landowners would be compensated, having invested prior to an administrative decree in 2006 that barred construction. However, the dune is populated by cashew, baobab (*Adansonia digitata*), and *ditax* (*Detarium senegalense*) trees—from which local women and children collect fruits—and other economically important tree species, such as fan palm (*Borassus aethiopum*), oil palm (*Elaeis guineensis*), and African mahogany (*Khaya senegalensis*). In nearby communities, a variety of hydrological and geomorphological effects are feared as a result of the mine, including, at worst, inundation of rice fields or aggravated saltwater intrusion, already occurring as a result of anthropogenic and natural phenomena.

In June 2010, Equilibria released a provisional EIES, which met with some reservations by the Technical Committee, requiring revision (Interview #86, 25 September 2017). The corrected report was released in February 2011, with minor changes. Because of the overall consistencies and continuities between the two reports, I refer to the EIES in the singular.

Within the EIES, several technologies were used to render the project's effects predictable and governable, including terms of reference, evaluation matrices, quantification and calculation,

analogous cases, and mitigation strategies. These technologies established a set of frames for the EIES, both in terms of what was to be included and excluded from the study, and through internal boundary practices that made it possible to evaluate discrete environmental and social aspects, and produce fungible equivalencies of ecosystem functions.

Terms of Reference

Terms of Reference establish the framing of studies and reports by establishing what is to be included and excluded. The Niafarang Project EIES's Terms of Reference are both comprehensive and referential. They include biophysical, geological, and social issues, presenting the study as comprehensive, having foreseen and assessed all potential issues. As one example, the EIES includes a very detailed section on human health and well-being, which examines respiratory issues from mine dust, as well as concerns about HIV/AIDS. It states that "it is probable that the project will further complicate an already precarious public health situation, notably with the development of HIV/AIDS" (Equilibria, 2010, p. 99, translation mine[2]).

The EIES determines that these risks can be attenuated by various health and safety measures, but the broader concerns they express were taken up by community members and understood, debated, and discussed in new ways. Paap, an elected local official and Committee member, noted that the EIES had "too many flaws." For instance, he said, "They said that men's mustaches would protect their noses from dust—but what about the women?" (Interview #45, 2 March 2016).

Idrissa Diop expressed frustration with villagers' comprehension of the project: "They don't know what type of mine is proposed … They said that heavy mineral sands cause cancer, things like that" (Interview #13, 11 September 2014). Yet the source of this (mis)understanding is

[2] All quotations of the EIES are my translations of the original French text.

contained in the EIES itself, which notes, “The inhalation of dust can be the cause of asthmas, cardiovascular afflictions, cancer, and Acute Respiratory Infection, which may result in premature death” (Equilibria, 2010, p. 97).

The EIES is also referential, explicitly positioning itself within national and international frameworks. Citing various relevant laws and regulations puts the document in conversation with other texts that govern environmental issues, mining, and sustainable development. As Annalise Riles (1998) points out, many bureaucratic texts gain legitimacy by generating self-referentiality (for instance, U.N. texts often directly copy from other U.N. texts). By referencing legal and administrative texts, the EIES legitimizes its conduct and recommendations as consistent with appropriate governing institutions and frameworks.

Quantification and Calculation

The EIES relies on complex calculations to present effects as predictable, and thus manageable. Calculation is an important tool in producing legibility and governmentality (Birkenholtz, 2015; Scott, 1998), and instantiates the worlds it seeks to apprehend, but is also always incomplete (Callon, 1998). The assessment of hydrogeology in the EIES demonstrates how calculation both remakes water issues, and opens up new contestations.

Groundwater is a strong concern for village residents, given ongoing problems with saline wells. The project would primarily use capital-intensive procedures of wet zircon mining, which uses a floating dredge and a concentrator with magnetized spirals that separate differently charged mineral sands (see Image 1 and Image 2), with limited sections of dry mining. Wet mining involves digging a dredging pond of 40 meters by 20 meters, slightly larger than a football field, with a depth set at the level of the water table. This serves as the main source of freshwater for mining operations. For additional supplies, the company would drill five large boreholes along the dune.

With the dredge moving southward along the dune, the project would ultimately mine six kilometers of dune from Niafarang to the village of Abéné.

Image 1: Abandoned HMS separator in Kartong, The Gambia (Photo credit: Ashley Fent)

Image 2: Abandoned separator from stalled HMS project in Varela, Guinea-Bissau (Photo credit: Ashley Fent)

Two main concerns about the mine connect to water: the mine's direct demand for already scarce freshwater supplies, and its exacerbation of saltwater intrusion into aquifers through the impact of HMS removal on filtration dynamics. The EIES' calculations of water use suggest that the wet mining process would require 30 m^3 of water per hour, in addition to water demands for workers (estimated at 0.41 m^3 per hour) and the need for dry mining processes (requiring 40 m^3 per hour) in one zone of the site. In total, the mining operation is estimated to require 125.41 m^3 of water per hour (Equilibria, 2010, p. 21), which is low by mining standards.

Given their importance to village concerns and livelihoods, the mine's water use became highly debated. In his copy of the text, Mohamadou marked a large "X" in pen next to the table

that presents these water estimates. Another Committee member, Albert, was also skeptical about these calculations. In an interview, he reiterated a comment I had heard him repeat many times before in public meetings: “They need 125 cubic meters of water per hour, over the three-year duration of the project. That quantity of water doesn’t exist here!” (Interview #79, 21 September 2017). The EIES does not provide a total calculation over the whole three-year period, nor how many hours per days or days per week estimates are based on; it also cannot estimate the amount of available groundwater or recharge capacity. Nevertheless, Albert combined the EIES calculations with his localized observations to conclude that the required amount of water is not present in Niafarang.

Yet not all village residents agreed with Albert’s predictions and viewpoints. One village resident in his forties challenged Albert’s explanation of these processes, favoring the EIES’ expertise: “Idrissa Diop came here and he promised compensation and a road. That could create jobs for the village.” Albert interrupted him to continue his critiques of hydrological aspects of the EIES, and the man attempted to get a word in for several minutes. Finally, he succeeded, and said, “Those people who have come and studied the site, maybe they know more about it than you” (fieldnotes, 21 September 2017). In this case, a Niafarang-born resident expressed distrust of the credibility of accounts offered by Albert and favored the explanations and economic boons offered from Dakar-based “experts.”

In analyzing the risk that the mine would exacerbate saltwater intrusion into groundwater, the EIES scientists took eighteen water samples from existing wells, ran an analysis of electrical conductivity, and used a Ghyben-Herzberg ratio to interpolate the level of the freshwater-saltwater interface. These findings were then compared to the amount of water extracted by the mine. The study found that the water withdrawals “would not have a notable influence on the interface

dynamic due to the fact that it is located at a depth of 44 and 136 meters, in reference to 0 IGN [a measure based on the average sea level in Marseille]" (Equilibria, 2010, p. 54). The study concludes, therefore, that hydrogeological sensitivity "can be considered slight" (Equilibria, 2010, p. 54). These calculations presented groundwater dynamics as knowable and predictable, in spite of well-established difficulties of monitoring, estimating, and governing groundwater quantities and disruptions (Birkenholtz, 2015). This dismissal of potential impacts was also contested by community members, including women in Niafarang who saw the proposed mine as inevitably entangled with ongoing water issues; one group of them declared, in response to discussions about the project, "*Hani*, no! How will we get water, when it's already salty?" (Group Interview #1, 12 July 2015).

As debates about water dynamics and availability proliferated, Idrissa developed additional strategies to make the project manageable and predictable. He showed me a PowerPoint in his office, to explain various aspects of the project and its hydrogeological impacts in greater detail than available in the EIES. Idrissa described the results of a second hydrogeological model he had commissioned, which he said "showed the existence of two types of aquifers. Many types, but two principal types. There's the quaternary aquifer, which is higher, and a deeper one, the oligo-miocene aquifer. … The deeper aquifer has a higher capacity, and it's also completely separated from the rice fields and the mangroves by an impermeable marlstone formation. … Although it's much more expensive, because it's located at a depth of 148 to 184 meters rather than 50, we recommended to the company that they pump from the deeper aquifer, to avoid a drawdown on groundwater, or effects on the provisioning of potable water in wells or on the rice fields. But even with that, the effects are minimal, because the water isn't being consumed, just utilized, and then reinjected into the aquifer" (Interview #86, 25 September 2017).

As he discussed this, he pulled up a diagram of the two main aquifers, entitled "Hydrogeological Model of the Mining Area." The diagram showed homes and wells on the surface, followed by rock layers and aquifers. However, it has no specific relation to Niafarang. The title covers some hidden text, likely from a book on general groundwater dynamics, and the labels for the aquifers are also superimposed on the photocopied image. These visual strategies make it *appear* to be rooted in the context of the project and the site. These additional models and data, surfacing only after years of debate, were offered to constrain and internalize the EIES' overflows.

Evaluation Matrices

While calculations provide legitimacy in the EIES's dismissal of hydrogeological impacts from the mine, there is almost no attempt to quantify probabilities or risk. Instead, potential future impacts are assessed qualitatively, through evaluation matrices. Evaluation matrices perform legibility and governability by separating interlinked socio-environmental components. For instance, hydrogeology, vegetation, and human occupation are all divided into separate sections. This allows for the assessment of potential risks specific to each component, and permits a sense of order, clarity, and parsimony. Similarly, the EIES separates space and time into what appear to be clear and distinct triads: project site, local, and regional; before, during, and after the mining operation; and immediate, short-, and long-term.

The presumed accuracy or appropriateness of these distinct spatial and temporal scales are in turn part of what determines the importance of potential impacts. The evaluation matrices operationalize "importance" for each individual component as the outcome of specific characteristics: intensity (the combined effect of value and degree) of the potential impact, its spatial extent, and its temporal duration. According to this matrix, a strong impact over the long

term, at the regional level, would be considered of major importance, while a moderate impact in the medium term, at the local level, is judged to have moderate importance, and so forth. Through recombination, in the form of "importance," the EIES presents a new "whole," enacting a version of the god-trick (Haraway, 1988, p. 582)—the claims made to objectivity and universality, made possible by a "gaze from nowhere" (Haraway, 1988, p. 581). In recombining elements through this epistemological frame, the EIES also remakes the environment not as interlinked human-nonhuman processes, but as a set of discrete factors ranging in sensitivity to disruption.

Most variables for which impacts are assessed are considered of minor to medium importance. Two main exceptions are worth noting: hydrogeology and the modification of soils. The hydrogeological impacts section includes no evaluation matrix, but instead restates, in bold italics, data and calculations from the hydrogeological annex conducted for the report; no attempt is made to state its extent, duration, or importance. By contrast, modification of soils is considered to be very important, according to the evaluation matrices. Both of these impacts, however, were dismissed by means of proposed mitigation strategies.

Mitigation Strategies

Some mitigation strategies are specific to the potential impacts under consideration, while others purport to prevent multiple issues at once. Impact-specific strategies include technical or management approaches—for example, banning pollutants, maintaining humidity in the machine operations to avoid the creation of excess dust, limiting water withdrawals to the amounts specified in the EIES, or establishing topographical maps of the site prior to mining. These also include awareness-raising, information sharing, and monitoring programs. Threats to hydrogeology, for instance, are rectified through technical recommendations that wells be drilled at a depth of 30

meters to 60 meters and that they avoid a piezometric dome, an area of the aquifer with high amounts of infiltration and high water pressure (Equilibria, 2010, p. 94).

Multi-issue strategies focus on dune rehabilitation and stabilization, securing unruly and unpredictable flows of sand, water, and soil, given concerns around soil modification. Soil modification may occur through a combination of factors, including stripping vegetation, erosion of soil and sand into mangroves and rice fields, changing dune morphology and halting soil formation from mining, and creating non-biodegradable waste. These risks are taken seriously by the EIES, but are nevertheless diluted through recommendations for site rehabilitation.

In order to stabilize and fix the dune, several interlinked processes must occur. To limit dust, maintain dune stability, and prevent modification of drainage systems during the mining operation, the EIES recommends that a "vegetative band" be retained or planted around the site, particularly to the west. As the dredge and separator proceed southward, the mining company will backfill the mined sections. Lighter quartz sands, set aside during mining, will be used to re-establish the dune surface. The EIES notes that Astron will need to consider the original soil profile in backfilling, in order to allow re-vegetation.

Astron also commits to then plant *Vetivera zizanioides*, a grass species. Vetiver Grass Technology (VGT), developed in the 1980s by the World Bank for soil and water conservation programs in India (Truong, 2000), has since been promoted as an effective and low-cost model for slope stabilization and erosion prevention in various regions (Molle, 2008, p. 138; Truong, 2000); it is also used in site rehabilitation after mining operations. In Niafarang, VGT is expected to fix sands and soils in place.

The EIES attributes rare cases of VGT failure to poor implementation (Equilibria, 2010, p. xvii). Successful implementation is critical because "if the original morphology of the dune is not

respected during rehabilitation, a modification of the hydrological function of this geomorphological entity may result. The uniform relief and the absence of vegetation could increase runoff, to the detriment of infiltration" (Equilibria, 2010, p. 96). The study also notes that site rehabilitation could "create a different local geomorphology and make the unstable dune even more fragile" (Equilibria, 2010, p. 94). So, while direct withdrawals of water may not impact the hydrogeology according to the EIES, mining could conceivably have a serious effect on the aquifer's ability to recharge, due to the hydrological function of the dune within the local geo-ecology. The uncertainty of geo-ecological reproducibility, masked in the EIES by the assurances of VGT and site rehabilitation, animated the concerns of the Committee and mine opponents. One man expressed this potential impact on the dune through the metaphor of a broken leg: "The doctor resets it. But something has still changed. It's not the same as before" (Interview #35, 19 October 2015).

Analogous Cases

In describing the process of HMS mining and site rehabilitation, the EIES utilizes examples drawn from Carnegie's mining projects in Brufut and Sanyang, both located in The Gambia. These sites were upheld by Idrissa and the EIES as models through which to interpret potential impacts of and mitigation strategies for the Niafarang Project. Idrissa, along with governmental representatives and Carnegie's Gambian office, visited the rehabilitated mining site at Brufut and the operational site at Sanyang in January 2008, "to the satisfaction of the team of agents from the DEEC and the DMG [Department of Mines and Geology]" (Equilibria, 2010, p. 23). These successful cases reputedly convinced environmental and mining representatives that this type of mine was ultimately innocuous and manageable.

These discussions did not, however, reference Carnegie's HMS mine in Kartong, located three miles from Niafarang on the Gambian side of the Allahein River. Members of the Committee repeatedly visited the failed Kartong site, which had been abandoned after a legal dispute between then-President Yahya Jammeh and Carnegie. Souley, a member of the Committee and a village hotel owner in Niafarang, insisted that I see the site for myself. One sweltering day in June 2015, fasting for Ramadan, we set off on foot, walking to the border and paying a bit of change for a short canoe ride across the river. After some negotiating with the Gambian border patrol, we took a shared car into Kartong, and walked north on the paved road, turning off in the direction of the sea.

The abandoned dredge was set in a pit. Vultures swarmed, drinking the water that had gathered at the bottom, and cows wandered lazily or napped on the dune. The fields next to the site, said Souley, were used to grow onions during the dry season and rice during the rainy season. Souley pointed out multiple heaps of sand in each field—the result of digging wells, he said, but no water could be found. He stopped a woman walking back from the fields, and spoke with her in Mandinka. To me, he said, "She says the project had water problems, and took their water, then gave them the used water for their rice fields. But the yield of onions [grown in the fields following the rice harvest] was lower than usual that year." He suggested that the mining could have been responsible for contamination, water stress, and lower yields impacting farmers.

Back in the villages, an older man, who was not a member of the Committee but had lived in Kartong during the mining operations, recounted, "I saw the mine site in Kartong, and even touched the product. They dug down inside the dune. The material that is rejected by the machine is a weak sand. It's not a rich sand, you can't even plant trees in it" (Group Interview #2, 9

September 2015). Drawing conclusions based on these observations, he noted that "it didn't work for the population there, and it won't work for us here, either."

For the Committee and many other village residents who had family in The Gambia or passed through on their way to the closest (and often cheapest) markets, Kartong represented the possibility of destruction, with its abandoned dredging pond and its desperate attempts to access receding water tables. This comparison led village residents and members of the Committee to fear the possible, rather than trust in the EIES' determinations of the probable. This frustrated Idrissa, who saw Kartong as an exception and detailed the many reasons that project had failed—none of which, in his view, were internal to the mining process.

Visualization Strategies

The technologies that establish the scientific basis of the EIES are also paired with and rely upon aesthetic visualization techniques, which establish governability in other kinds of ways. Three main visualization techniques are used to establish legitimacy: maps at various scales, photographic images, and graphs.

Strategies of data visualization within the EIES establish a sense of governability and scientific legitimacy by showing expansive context, but also by establishing locally grounded observations. They thus perform both objective, intellectual distance and a self-legitimizing situatedness in place, time, and context; these performances are challenged, however, by oppositional readings of what the EIES includes and excludes.

Maps

Maps in the EIES serve two main functions: situating the Niafarang Project within broader geographical contexts or showing the hyper-local spatiality of collected data. The first contextualizing map, in English and likely copied from elsewhere (based on its resolution),

positions the Niafarang Project site within the larger exploration license, as black lines atop a beige Senegal. It also includes thick black lines for other HMS mines in The Gambia. This map is paired with a smaller map showing the location of Senegal and The Gambia within West Africa, and another, even smaller map locating West Africa on the African continent. Additional contextualizing maps show the project's location within the Rural Community (CR, *Communauté Rurale*) of Diouloulou. One of these merely depicts the "general situation" of the site and surveyed locations—Niafarang, Kabadio, and Abéné, the latter of which floats on a white background, outside the Diouloulou shapefile, as it is within the Rural Community of Kafountine. These maps function to situate Niafarang and the Niafarang Project within more expansive geographies, negating a sense of place specificity and communicating knowledge about and visibility of broader contexts.

By contrast, data maps are extremely localized, focused on the narrow dune itself. One map, provided by Carnegie Minerals PLC and labeled in English, shows the transects along the dune in Niafarang where geological samples were drilled. Another divides the dune into six "mineral assemblage zones" (Equilibria, 2010, p. 22), showing possible water borehole sites adjacent to the site. A series of grayscale maps, with the mineral assemblage zones marked in various colors, also display data points for various factors used in determining the mine's impacts on groundwater resources and the freshwater-saltwater interface—conductivity, piezometric surface topography of the water table, and soil and groundwater depth (Equilibria, 2010, pp. 40-44). Data maps established legitimacy through the hyper-specificity of place, showing that, as Tim Choy (2011) suggests, expertise depends both on the appeal to universal generalizability and on rootedness, application, and applicability to particular places.

Images

Like maps, photographs in the EIES establish the study team's local presence; they also demonstrate expectations of successful mitigation. Original photographs of the Niafarang Project site feature properties, pasturage areas, and dirt roads on the dune, and rice fields adjacent to the dune. As snapshots, these photos are by definition temporally bounded, showing particular moments that portend to demonstrate something fixed and stable about the site. They are also spatially bounded, focusing almost exclusively on the project site and its immediate environs—the "restricted area" of the study (*zone restreinte*)—rather than on the study's "expanded area" (*zone élargie*), including areas beyond the sand dune. They are also devoid of humans. The EIES is notable, therefore, for the aspects of village life and environments that it does *not* include in images, but which play a central role in local understandings of place and environmental change: sharp drop-offs along the beach, in some places taller than an adult man; an abandoned well and home crumbling into the sea; salt-encrusted soils of some rice fields; or women crossing the dune to harvest oysters and clams from the mangrove mudflats.

Although the EIES's photos exclude humans and socionatural interactions, in the section on human context (*milieu*) the document includes a perplexing photo entitled "Provisional shelter being used as a classroom in Kabadio." Unpeopled like other photos, it shows empty lean-tos with walls of woven grasses and roofs made of palm fronds. Several village residents, including Mohamadou, were outraged by this photo. "That isn't even in the village!" he said one day, showing me his copy of the EIES. "You've been here. You've seen the school. Have you ever seen that?" I had not. Similarly, Paap noted, in his dismissal of the EIES as unreliable, "Those photos of the classroom in Kabadio aren't even in Kabadio!" For them, the inclusion of this photo demonstrated the study's inaccurate engagement with the local place.

However, the photo did reflect Idrissa's view of the locality. Commenting on village residents' fears of negative impacts from the mine, he responded, "The education rate is very low[3], and the people are highly manipulated" (Interview #13, 11 September 2014). For him, villagers were uneducated and uninterested in development. The human context section of the EIES reinforced this view, in its descriptions of weak, undeveloped education infrastructure, electrification, telephone connections, and health care systems. The inclusion of a single image, that of the "school," paired with descriptions of these deficiencies, produced an opportunity for improvement.

The EIES also included a series of photos from other mines. Photos of Carnegie's Gambian HMS mine sites demonstrated techniques of extraction, including wet mining, dry mining with an excavator, and dry mining with the Scrapper—a bucket wheel excavator, which has large conveyor belts formed by a series of buckets (Equilibria, 2010, pp. 17-18). Additionally, diagrams with English captions showed how HMS operations work. Together, these images illustrated how the Niafarang Project was expected to proceed, following the course of Carnegie's other operations.[4]

Photos also depicted successful site rehabilitation in Brufut. A 2003 photo shows the mine site backfilled with lighter quartz sands and leveled off, while a 2004 photo shows the same site, green and recolonized by vegetation (Equilibria, 2010, p. 23). The EIES featured a number of supplementary photos of VGT used for slope stabilization in China, Thailand, and Kabrousse

[3] In fact, the Casamance region as a whole has long had a higher education rate than the rest of Senegal (with the exception of the Cap Vert peninsula, where Dakar is located). This is attributed to the legacy of the Catholic Church creating private village schools in the region (Cormier, 1985; Labrune-Badiane, 2010). The 1988 census found that the education rate in Casamance was 73 percent, compared to 43 percent across all of Senegal (Cormier-Salem, 1993).

[4] It is worth reiterating that Carnegie, which provided many of the examples and assurances included in the EIES, no longer owns the project, having transferred it to Astron in 2008.

(Casamance), depicting grassy, green slopes and technicians arduously planting the grasses on a sandy test plot. This visual evidence presented site rehabilitation as predictable and effective.

When Committee members visited the Kartong site, they took their own photos (see Image 3 and Image 4) and used these to draw alternate conclusions. In juxtaposition to the EIES' heralding of success stories, Committee members' photos of the "failed" case evoke loss and desolation: sand dunes full of resting cows, a fallen baobab tree, and a sense of abandonment.

Image 3: Committee members visiting Kartong (Photo credit: Committee Against Zircon Mining in Casamance)

Image 4: Kartong HMS mine site, post-mining (Photo credit: Committee Against Zircon Mining in Casamance)

Even as images and photos within the EIES worked to render the project and its effects predictable and governable, the Committee's emphasis on the overflow of potential damages—excluded from view within the EIES—became part of the debate, eventually pushing Idrissa to explain why and how Niafarang would not follow Kartong's example.

Graphs

The EIES also features charts and graphs, most of which focus on climatic variables. These are bounded temporally by month or year. Based on measurements taken in the regional capital of Ziguinchor, one graph shows average monthly rainfall from 1921 to 2007; another, average monthly temperature from 1951 to 2007; a third, average monthly humidity from 1951 to 2007;

and a fourth, average monthly insolation in the same time period. A graph of the change in rainfall in Ziguinchor since 1921 shows a steady decline in annual averages since the 1920s, in this case aligning with village residents' experiences of declining precipitation.

The extensive discussion of pluviometry, precipitation, and wind current directions is pertinent to the mining project and its environmental impacts mostly in the context of understanding the aquifer recharge via infiltration. Based on the instrumentality of these variables within the EIES, one village resident contested the conclusions drawn for Niafarang based on measurements in Ziguinchor. As Ziguinchor gets more rain than Niafarang, this was seen as potentially skewing the findings of the study.

Overflow: Challenging the Frame

Due to Committee members' and some local residents' interactions with and interpretations of the EIES' inclusions and exclusions, the EIES became a contested document, requiring additional contextualizing, commentary, and documentation. As the previous sections shown, contestations occurred about how the EIES framed issues in ways that did not align with local understandings of which environments, risks, and places should addressed, and their emphasis on what was left outside the frame. Beyond this, however, the entire EIES process became re-politicized, as members of the Committee emphasized the influence of context on the text itself. Specifically, this occurred through persistent critiques of conflict of interest, involving the environmental consultant, Idrissa Diop. The focus on conflict of interest—and the problems that interested expertise poses for objectivity and accuracy—allowed the Committee to articulate legally-grounded arguments against the EIES that successfully allowed them to "jump" scales, by connecting to international supporters and national politicians, and to indefinitely postpone the

project. In this, the EIES took on an oppositional life, being utilized by the Committee as a tool for advancing their resistance to the mine.

From the start, Idrissa was visibly involved and embroiled in the mining negotiations (Interview #24, 16 June 2015). He had been involved in the exploration phase and was involved in negotiations following the release of the EIES, in lieu of official corporate representatives; Astron publications refer to a "local Project Consultant" (Astron Corporation Limited, 2017), widely known to be Idrissa.

In his account, Idrissa insisted on his integrity in conducting EIES, given the inherent possibility of corruption or conflict of interest (Interview #13, 11 September 2014). Idrissa claimed that he was simply standing by his work as an environmental consultant, as the debate over the EIES had been a major obstacle for the project. After many years negotiating the EIES, he considered himself a member of the community, having formed, he said, close relationships with many villagers and having bought a title to a parcel of land on the same dune that is to be mined. Residents corroborated this latter point, regarding Idrissa's purchase of land on the dune; it is also confirmed by a map of owned plots of land on the site.

However, to the Committee and the villages involved in the project, Idrissa's entanglement with nearly every step of the process translated into deep distrust of the EIES' findings and its dismissal of many potential threats as negligible. Mohamadou, for instance, cited Diop's conflict of interest as one reason that, in his words, "the consequences were not taken into consideration by the EIES, and everything that could pose a problem was taken lightly" (Interview #24, 16 June 2015). Explaining this connection between the interested consultant and the dismissive treatment of environmental and social risks associated with the mining venture, Mohamadou added, with a smirk, "The cobbler seeking raw hide never tells the truth about the health of a goat."

Idrissa's conflict of interest was so problematic for members of the Committee and community members that during one meeting, the district administrator who was most closely involved in the negotiations admonished attendees that "you shouldn't issue *ad hominem* attacks of an individual, who is simply a consultant" (fieldnotes, 2 May 2015). In an interview months later, however, his response was different:

> AF: Whom do you mean when you refer to the 'Astron guy'?
>
> District administrator: I mean Idrissa Diop, who is at once the consultant as well as the company representative. (Interview #37, 25 January 2016)

Thus, Diop's dubious role and likely conflict of interest cast doubt over the findings of the study and accounted for the cursory consideration of environmental effects, in the eyes of community members and some state actors.

Expressing skepticism about the document's lack of objectivity, members of the Committee argued that the EIES did not meet the standards established in Senegalese law, demanding a new EIES. Local members of the Committee who held degrees in law or political science attentively followed the language in relevant codes. The Committee drew upon the language and requirements included in the Environmental Code of 2001, which states, "To ensure the quality of environmental evaluations and to ensure the independence of thought, action, and judgement, consulting firms are authorized [by the Ministry of the Environment] to conduct environmental impact statements in the domains of competency appropriate to them" (République du Sénégal, 2001, p. 50). Emphasizing this language of independence and objectivity through an intertextual understanding of the EIES and Senegalese environmental law, members of the Committee voiced distrust of Idrissa and the EIES, and repeatedly blocked approval of the EIES at public forums, citing its flaws and its conflict of interest.

Claims about conflict of interest in the EIES and skepticism about its results also allowed the Committee to "jump scales" (Smith 1992) by recruiting international and national allies, as other mining controversies have done (Haarstad & Fløysand, 2007; Urkidi & Walter, 2011). Members of the Committee had connections with foreign researchers who had long worked in Casamance; based on the EIES's context, this group of researchers wrote an open letter to President Macky Sall in 2015 which stated, "Conducted on behalf of the concessionary company, the only existing impact study unfortunately does not offer satisfactory guarantees in terms of impartiality. This is why we are asking that before any commencement of work, a new study be conducted, completely independently by recognized specialists who are agreed upon by all stakeholders" (Marut, 2015, translation mine). The presentation of the Committee's concerns in terms of objectivity, impartiality, and conflict of interest articulated with academics' and activists' frameworks for understanding and addressing these issues, through the lens of independent, objective, and impartial science.

It was also through the EIES that two deputies in the National Assembly became interested in the case. One focused on juridical concerns linked to the project, issuing statements at a televised press conference in September 2017. The other, having an extensive background in environmental issues and environmental governance, as well as a diploma in Disaster Risk Reduction, issued remarks specifically on the environmental issues at stake in the EIES, engaging in a series of televised debates with Idrissa in 2017.[5]

These "jumps" of the EIES debate made the Niafarang Project and the environmental assessment highly visible, positioning the case in ways that were actionable for international

[5] He later agreed to conduct his own EIES, which is still ongoing at the time of writing. One of the key problems with EIAs, according to Fabiana Li (2015), is the difficulty local groups have in raising sufficient funds to scientifically evaluate existing assessments, or to conduct new ones. It is unclear how this was or will be accomplished in mobilizing the scientific expertise necessary to conduct a new EIES in Niafarang.

researchers and national politicians. As a contested object, the EIES was a critical tool in producing the possibility of extended delay, holding up the process of negotiations as members of the Committee, village residents, and international and national allies demanded a new and independent EIES. In part, the intense scrutiny of the EIES and demands for a new one served as a delaying strategy, according to a key leader in the Committee—they would find another argument on which to base their case, were a favorable study conducted. As a strategy, this was fairly effective. For a number of years, the Regional Mining Office had not been able to move forward with the mine, as negotiations with local communities about EIES approval were still ongoing (Interview #41, 1 March 2016).

Conclusion

In this chapter, I have detailed how the EIES sought to render the Niafarang Project governable and predictable through scientifically legitimate expertise. This relied on a series of technologies that bounded the frame of the study, including Terms of Reference, quantification and calculation, evaluation matrices, mitigation strategies, and analogous cases. These technologies established boundaries between various ecological and social factors, presenting them as discrete; set the types of models and rubrics through which these factors could be evaluated and predicted; opened room for thinking about how negative effects could be attenuated; and generated what the EIES authors believed to be reasonable and illustrative comparisons of similar, successful mines and site rehabilitation projects. These predictions were reinforced through curated maps, images, and graphs that visually demonstrated the legitimacy of the study by performing both the god-trick and a rootedness in data from a locally specific place.

From the perspective of Idrissa and some state actors negotiating the mine, the repeated community rejections of the EIES stemmed from a need for greater awareness-raising and

communication of its findings. But it was not a lack of understanding that caused popular rejection of the Niafarang Project EIES, but an overflowing of plural understandings that challenged the findings and context of the study. As in other public contestations of EIAs (e.g. Hébert, 2016), the Committee, national-level politicians, foreign academics, and some village residents challenged what the EIES included and excluded within the frame, and its methods for understanding, predicting, and illustrating the various ecological and social components it produced.

In their critiques of interested expertise, the Committee also argued for a view of the text within the broader contexts of its production and the legal framework governing it. This accomplished two interlinked effects. First, it allowed for the debate to "jump scales," being recognized and addressed in international and national circles. This proliferation and expansion of debate about the EIES, in turn, created visibility for the project and the Committee, and delayed mining operations, buying time for an objective and independent assessment by national-level politicians. The EIES became the object of contestations about the ability to predict, know, and govern extraction and its impacts; this opposition disrupted the authorial and bureaucratic power of the text by highlighting the overflows it produced.

Chapter 3: "The Sea Will Crush Us" (*La Mer Va Nous Défoncer*): Local Ontologies, Predictions, and Possibility

Introduction

The previous chapter addressed the boundary practices of the EIES, and the ways in which the document was contested and extended. The EIES process separated out distinct elements from the rest of the environmental context, and the mining project's potential impacts from ongoing environmental issues, caused by anthropogenic and natural forces. It addressed, for instance, concerns about saltwater intrusion into groundwater and the silting over of rice fields and mangroves, and produced a series of technical recommendations designed to mitigate these risks. But the way in which it did so neglected "local expertise,"[1] according to Committee members, who demanded a new EIES. Building on this demand, in this chapter I examine local ontologies through which differently positioned village residents narrated possibilities of being and becoming, through the lenses of environmental change, impacts from mining, and alternative development possibilities. Local ontologies of land and resources exceeded both the mining project and the concerns judged worth considering by the EIES, but were also increasingly entangled with it. The developing scientific knowledge around the potential environmental impacts of HMS removal intersected with local experiences, understandings, and observations of ongoing environmental change in complex ways. Whereas the previous chapter focused on varied and contested interpretations of the EIES, as a document and process, this chapter takes up the ways that the mining project entered into and shaped ontologies in local communities more broadly.

[1] The term used is "*compétences locales*." This can mean skills, competence, or expertise. Based on the context of how this was used, I have chosen to translate this as "expertise."

Souley, a Committee member who lives just feet away from the proposed mine site in the village of Niafarang, rarely leaves the tranquility of his home (which doubles as a tourist campsite). He spends the afternoons with his family, looking out at the mangroves between their home on the elevated dune and the Atlantic Ocean. He has already seen a whole swath of mangroves swept away by the vagaries of the sea. When visitors come to ask about the mining project, Souley first shows them the dune and then accompanies them to the beach, guiding them through the mangrove channels and demonstrating the erosion of his neighbor Diamé's residence into the sea. During my first visit in 2014, he pointed out an abandoned well that jutted up strikingly on the beach, attacked by the waves at high tide. The well in the sea was a visual testament of the loss of once habitable land that villagers use to narrate the steady encroachment of the ocean, and their fears of how the mine would exacerbate ongoing environmental issues. The coastline and the eroding well were not featured in the EIES, which limited itself primarily to the dune itself, excluding scenes—like this one—judged by village residents to be a major part of the story. By 2015, the well was no longer visible, washed away entirely by the sea.

As Tanya Richardson and Gisa Weszkalnys (2014) state, "Capitalist forms of resource extraction … cast resources not as the products of lively, mutual human-nonhuman interactions, but as, essentially, dead matter dis-embedded from the environments in which they are found" (p. 15). For capitalists and many national elites, the potentiality of resources is a space of speculative fervor, planning, and calculation of resource futures (Appel, Mason, & Watts, 2015; Weszkalnys, 2015); for critics, resource potentiality may signify a "disaster foretold" through prediction of environmental impacts (Hébert, 2016) or resource curses (Weszkalnys, 2014). Techniques to predict, manage, and visualize the potentiality of HMS in Niafarang have produced diverse resource ontologies, in which these sands are, do, and afford different things.

Co-occurring zircon and titanium sands, some of the oldest minerals on earth, have accumulated over millennia, through wave action and river deposition. It was in 2012, however, that Astron declared in one of its publications: “Welcome to the zircon and titanium age!” (Coetzee, 2013). This “age” is characterized by increasing international demand for zircon, as a primary source of zirconium. The corporation is interested in specific HMS *properties*. For the industrial commodities markets Astron serves, zirconium’s heat-resistant properties are useful in making porcelain household appliances and nuclear reactors. For its part, titanium is primarily used in the aerospace industry. The Senegalese state’s interest in HMS extraction is primarily in its role as an economic development strategy, a view shared by local proponents of the project.

Both of these, however, are at odds with many village residents’ understanding of the geo-ecological function of HMS in stabilizing the sand dune and thereby making agricultural and developmental futures possible. For many village residents, HMS allowed the dune to act as a “natural barrier” between the encroaching sea and low-lying rice fields. This understanding arose, in large part, from geological exploration and environmental reports. It was alongside these developments that HMS, which most residents had never heard of prior to 2004, became seen as a source of stability. So, most village residents feared the effects that removing this stability-granting matter would have on the ecologies in which it was embedded and viewed as inadequate the EIES’ and Astron’s promises to recreate stability through Vetiver Grass Technology, discussed in Chapter 2,. For village residents, then, the materiality of HMS plays a critical role in relation to the geo-ecological conditions and development potential of agriculture. These multiple, divergent natures of HMS overlap and contradict, bringing together divergent social worlds. Local understandings both draw on the EIES process and clash with the EIES’ findings in public debate.

Understanding local ontologies that were neglected in the EIES—and the developmental demands that they have informed—requires some discussion of what is implied by both "local" and "ontology," and the overlaps between these terms and other iterations of similar concepts. Since the 1980s, critics of mainstream Western scientific hegemony have promoted stronger incorporation of local, traditional, and Indigenous knowledges into development planning and environmental management (Harding, 2003; Kloppenburg, 1991; Menzies, 2006; Phuthego & Chanda, 2004), environmental impact assessment (Johannes, 1993; Usher, 2000), and climate change understandings (Riedlinger & Berkes, 2001), citing the roles of local knowledge in maintaining past and present biodiversity (Berkes, Folke, & Gadgil, 1995). Local agronomic and environmental knowledge has often been cast as a corrective to problematic narratives propounded by colonial regimes, postcolonial states, and Western science (Bassett & Crummey, 2003); its promotion restores agency to marginalized resource users (Carney 1991; 2001) and democratizes environmental knowledge production (Batterbury, Forsyth, & Thomson, 1997).

However, romanticization of local and Indigenous knowledges has also led to a series of problematic assumptions and dichotomies. First, many accounts position local, "non-scientific" knowledge as a singular and unified object. This does not acknowledge the ways in which knowledge, production, and uses are differentiated based on social grouping and position within power relations (Briggs, 2005; J. Evans, 2004; Robbins, 2000a). Importantly, local ontologies in Niafarang should be understood as plural, diverse, and processual. I attempt to show the ways in which articulations of environmental expertise and resource ontologies differ among men and women, among locally-born residents and outsiders, and among ethnic groups; however, this does not systematically capture the ways in which knowledge is socially, economically, and geographically variegated (e.g. Robbins, 2000a).

Second, this fixed and stable system of "local knowledge" appears as the neglected Other of Western science, creating an artificial binary between the two (Briggs, 2005). For instance, "local" knowledge is often juxtaposed against "scientific" knowledge (Raymond et al. 2010). However, as Arun Agrawal (1995) points out, these supposedly unified systems are both highly heterogenous (p. 421). Knowledge systems may include personal, lay, tacit, or implicit knowledge, be rooted in cultural norms, and/or intersect with formal education and research extension (Raymond et al., 2010).[2]

Further, binaries present the two systems as developing through entirely separate trajectories, as though neither has influenced the other (Agrawal, 1995, p. 422).[3] In fact, studies have demonstrated that scientific understandings and managerial processes are shaped through various "knowledge encounters" (Murdoch & Clark, 1994; Taylor & de Loë, 2012). For instance, African women's agronomic knowledge was incorporated into agricultural production systems in slave-holding societies (Carney, 2001), while contemporary practices of bioprospecting demonstrate the problematic entanglements between local and indigenous knowledges and the pharmaceuticals industry (Hayden, 2003). Critiquing the binary between state science and local knowledge, Paul Robbins (2000a) argues that this distinction is not at all empirically obvious, nor even the most relevant division among what he terms "knowledge communities," populated by differentially positioned state actors and local groups. Further, as Sheila Jasanoff (2004) has argued,

[2] Raymond et al. (2010) offer a typology of knowledge in environmental management, including experiential/local knowledge (furthered subdivided into indigenous, traditional ecological, local ecological, personal, lay, local/situated, tacit, implicit, non-expert or novice expert knowledges), scientific knowledge, which is defined by systematic study and the scientific method (including explicit and formal knowledge sub-categories), and "hybrid" knowledge that have been produced through social learning. I find this classification problematic, because it neglects that all knowledge is in some ways "hybrid."

[3] Agrawal (1995) argues that these binaries are reminiscent of anthropological inquiries into the "savage mind" (Lévi-Strauss, 1966) or "primitive" culture. In other words, "local knowledge" is relegated to romanticized communities, while Western science is still granted the legitimacy to verify, appropriate, augment, or disprove these more parochial forms of knowledge.

environmentalisms that form outside of the Global North are not necessarily resigned to the "local," but in fact posit alternative ontologies of the global. She contrasts the U.S. deployment of images from the Apollo mission in mobilizing a sense of global environmentalism—a vision that has been rightfully critiqued for excluding and erasing various peoples and places—with the use by Indian scientists of images of drought before the monsoon, and their emphasis on the differentiated classes of global environmental citizens. Local, traditional, and Indigenous knowledges should not be interpreted, as they often are, as code for "non-Western" science, but as hybrid and plural understandings of environments at multiple scales that are, in this respect, not considerably different than Western science, with its particular ontologies and epistemologies.

Provincializing Europe (Chakrabarty, 2000) and its scientific vision also highlights that Western science is also situated within particular spaces, times, and political contexts, in spite of its performance of objectivity and universality (Haraway, 1988; Harding, 2003). The social situatedness and specificity of *all* science is part of what allows for sociological and anthropological inquiries of science, and various and sometimes competing claims to scientific legitimacy (Lave, 2011). Scholarly inquiry has suggested that Western science's claims to universality encounter constant "friction" with local contexts (Tsing, 2005); this generalizability equally depends on local specificity and realization in particular places (Choy, 2011). Understandings of local knowledge systems as hybrid (Gupta, 1998; Phadke, 2011) support what anthropologists and geographers have long suggested about "local" places—that while lived and experienced within a particular locality, they are deeply influenced by flows and connections across space (*inter alia,* Chu, 2010; Faier, 2009; Ferguson, 2006; Massey, 1991; Piot, 1999). As J. Peter Brosius (2006) argues, for every local knowledge system there are multiple "locals," including those who inhabit and use the land in particular locales (whom he terms the "local

locals," and who are the people anthropologists often work among), and those who represent and speak for local knowledge, as in international forums for Indigenous rights. And, he suggests, whether translated into academic texts by anthropologists or translated into the language of global indigenous rights by advocates, local knowledges are never purely "local," but are instead shaped by diverse factors and translated into the different discourses interlocutors participate in (Brosius, 2006).

Therefore, the "local" of Niafarang's local ontologies should not be understood as a provincial and situated understanding set against some "universal" science, but as the way that processual, translocal, and changing networks of knowledge manifest in the locality at a particular point in time. Like all knowledge, these are hybrid co-productions, much as Akhil Gupta (1998) describes among Indian farmers, who blend "humoral agronomies" with the seemingly contradictory logics of Green Revolution bioscience. In his view, these "indigenous" knowledge systems are, first, "composed of disjunctive and incommensurably hybrid discourses" that result from postcolonial modernity, and second, "not a closed field of meaning and action" but instead shaped by economic stratification and social differences (Gupta, 1998, p. 160).

As I discuss in the following sections, traditional ontologies in Niafarang view the land as deeply imbricated with the world of spirits. However, since at least 2004, some residents of Niafarang and surrounding villages have also been working closely with state environmental services agents, who explain sand mining bans and coastal erosion, forest conservation, and environmental legislation—these ideas, too, play a role in the discussion that follows. In addition to awareness-raising campaigns by state agents trained in Senegalese conservation knowledge, experience, and priorities and international conservation science, the villages also have been visited directly by *tubaabus* (foreigners, usually white), with their own environmental knowledges

and interests, and by environmentally-minded individuals from Dakar or elsewhere in Senegal who have permanently relocated to the area. A messy, entangled combination of these diverse forms of environmental experience and understanding forms what some residents refer to as "local expertise" linked to the environment, and what I have chosen to refer to as "local ontologies."

The term "ontology" is, however, subject to an important critique offered by Celia Lowe (2006) about the implications of discussing "knowledge" as an object. In examining biodiversity conservation in the Togean Islands of Indonesia, she refers to Togean reason, rather than "knowledge" or "knowledges." This, she argues, captures ongoing processes of thinking and revision, whereas "knowledge" implies a fixed object that people possess (Lowe, 2006). In this respect, local ontology is perhaps more akin to this notion of fixed "knowledge" than to the processual nature of reason, although it does convey a sense of ongoing study.

The idea of "local expertise," as upheld by members of the Committee and some village residents, has also emerged in the particular context of extractive development. Dakar-based environmental experts studied the locality and generated the EIES based on their own measurements, abstractions, and scientific formulations, and, as the past chapter suggests, reflecting economic and political interests on the part of the lead consultant. Claims about "local expertise" must then be understood as conceptually mirroring and challenging the non-local expertise of the EIES. Local expertise was often mobilized against the expertise of the EIES, used to critique it and disrupt it. If not for the mining project, perhaps village residents would not have spoken in the same ways about these processes or would not have reasoned them in the same ways. The Niafarang Project and EIES, while playing a role in producing hybrid environmental ontologies and epistemologies, also occludes other potential understandings of the environment that may have existed without it.

However, beyond the Committee's strategy of demanding the inclusion of local expertise, I find that in this case "ontology" captures a more expansive process of understanding than knowledge, expertise, or reason. In part, this is because in describing my own understanding of local environmental and developmental ontologies in Niafarang (which of course is a selective and representational choice, also reflecting my informants' own selective choices about what to tell me), I make the choice to consider invisible, spiritual forces as part of these ontologies. In so far as this coheres with other questions about the nature of being and existence, i.e. around the environment, I address this through the lens of ontologies.

Recent work, building on posthumanism and Actor Network Theory, has sought to decenter humans, generating provocative ways of thinking about environments as produced through animal life, vegetation, non-living matter, and humans. However, few studies have addressed the role of souls and spirits in these assemblages (with Kohn, 2013, as a notable exception). Noah Theriault (2017) urges greater consideration in political ecology for "supernatural agency" and the impacts of Indigenous world-making for environmental government by states and other actors. Often discussed through the lens of witchcraft (Ashforth, 1996; Geschiere, 1997, 1998), the spiritual world is also important in agricultural labor patterns (Davidson, 2016; Linares, 1992) and commodity production (Taussig, 1980). In considering understandings (and non-understanding) of the spirit world—which are a part of local ontologies in Niafarang that were left out of the production of bureaucratic, interested environmental knowledge by the EIES—I seek to reconcile literatures on spirituality, invisibility, and the unknown with those on local knowledge. To understand local ontology as a hybrid requires a suspension of the need to bracket where "expertise" ends and "superstition" begins, as this merely reproduces colonial and Western divisions. Furthermore, I suggest that ontologies of the earth as engaged in constant exchanges

between biophysical processes, social world-making, and forces that can neither be seen nor fully known, illuminate the ways in which local ontologies have focused on the possibilities of the unknown: both as potential catastrophe from mining, and as possibilities for better developmental futures.

In the sections that follow, I describe the aspects of local ontologies that overflowed and exceeded the boundary-making practices of the EIES, and how the introduction of mineral resources amended existing hybrid ontologies of land, water, and sediment. I organize these demarcations by focusing on particular narratives of process and prediction, as they emerge through discussions around particular fears, understandings, and interconnections of matter. I begin with expressions of the value of land and resources, those to which all subsequent understandings refer and upon which they depend: the importance of rice and, to some, palm wine in cultural and livelihood practices, and the spiritual and historical dynamics embedded in land. Subsequent sections address local ontologies about how these fundamental aspects of life in the village have been impacted by coastal environmental change, and how these effects are expected to be aggravated by the mining project. These sections address narratives of being "attacked" by the sea and by salt, issues of water scarcity, and the dune's role as a "natural barrier," protecting the village from harm. The final section discusses the complexity and internal contradictions of developmental demands, articulated by village residents as alternatives to extraction.

Local Ontologies

"Our lives depend on rice and palm wine" (Notre vie, c'est les rizières et le vin de palme)

In the summer months, Ramatoulaye sets out for the fields early. Her grandmother, Bintou, directs me to accompany her; she points at the sky, telling me to be prepared to leave when the sun has risen to about 15 degrees (someone translates this as 9:00 AM, for my benefit). Bintou and her

brother (Ramatoulaye's great-uncle) say that these fields had been in their family since their grandfather's days. They ceded some of the fields to Niafarang residents, but maintain a large swath of fields near Batanding, a northern quarter of the village. Now, Bintou mostly sends out the younger women in the family to cultivate the rice. So, Ramatoulaye, her mother, and her aunt hoist bright green bundles of young rice seedlings onto their heads (see Image 5), and walk down the gravel road out of town, heading to their vast expanse of rice fields in Niafarang. It is September, and the sun is hot. The rains, once lasting from June until September, began this year in July and had largely ended in August. Without that reprieve the heat builds, radiating down from the direct sun and outward from the bright green foliage. Rama, in her twenties, dreams of

Image 5: Niafarang girls carrying rice bundles to transplant (Photo credit: Ashley Fent)

traveling—she has only ever been across the Gambian border. She is not yet married and is shocked and amused when I tell her that in the U.S., men are not allowed to take multiple wives.

Rama and her companions carry the rice bundles the three kilometers down the laterite road, passing through a swath of farmland and tall fan palms (*rôniers*), palm trees, and *vène* (*Pterocarpus erinaceus*). A few houses appear on the left, along with a European man's house on the right, its heavy metal gate painted a rusty red. Eventually, they reach the brightly decorated arches of the cemetery for local victims of the 2002 Joola disaster, when a large passenger ferry between the Senegalese capital of Dakar and the southern city of Ziguinchor sunk off the coast of The Gambia, killing 1,863 passengers. The main road veers to the left, the trees yielding to low grasses and mudflats, with two smaller dirt roads veering off into other areas of the *bolong* (mangrove channels). The dirt road to the right weaves through tall, itchy grasses and large trees, alongside the cemetery and then through a confusing tangle of trees, shrubs, and pathways that ultimately lead to Campement Mansa Dambel, named after the village founder—a set of small huts that face a stand of retreating mangroves from across a small river that rises with the tides. The campsite was relocated here from the dune in Niafarang when the state imposed a moratorium on construction on the dune in 2006, in the context of the proposed mining project, and the French backers of the campsite told the collective of villagers operating it that they would discontinue funding if it wasn't moved.

But Rama continues on the red laterite road, across a small bridge that—in spite of a hole in its base for water to rush through when high tide pushes water into the *bolong*—has played a role in killing the mangroves that once teemed in this gap. Sometimes, children sit along this bridge in the rainy season, using mosquito nets to catch small *carpe rouge* (African red snapper, *Lutjanus agennes*) in the water below. Once across the bridge, Rama and her companions continue up a

small incline, approaching the massive kapok tree that marks the entrance to Niafarang. The tree towers above its surroundings, and houses thousands of round nests of small yellow weaver finches, which simultaneously swoop out of the tree and back several times a day, with a "whoosh" so loud it sounds like thunder. Rama and her companions greet in passing the families that live alongside this road, continuing into the rice fields.

Rama's family owns around five hectares of rice fields in Niafarang, because of historical lineages that link them to the first chief. They depend on these rice fields to produce their means of subsistence, which they will harvest in December and must last them through the entire year. This year, Rama says, they won't be able to put all the fields under cultivation—everyone is sick with malaria; without all the women in the household contributing their labor, they'll have to limit their rice planting. Walking in plastic flip-flops along the narrow, raised mounds of soil between fields and still carrying the large bundles on her head, Rama indicates the extent of her family's land.

"This field is still flooded," she says, pointing to a field near to the large dune to the west. "We'll have to wait for the water to go down."

She walks to the other side of the land, and points at two fields overgrown with thistles and tall grasses. "We're not even planting this one this year," she adds. We walk back to where her mother and aunt have already begun transplanting the rice seedlings, and she removes her sandals and enters into the hot, thick mud of the low-lying field. Transplanting rice is easier in fields with standing water—one can merely stand in the water, floating the rice seedlings nearby and using a forefinger to press their roots in threes or fours, along a raised bed. But this field is more difficult, as the standing water has evaporated—and it's not clear whether more rain will come, potentially jeopardizing the yields of these freshly planted rice stalks. Rama shows me how to use a blunt

wooden trowel to poke holes into the raised bed, and then to insert the rice seedling and press the soil down around it (see Image 6). The work continues for hours in the hot sun, and today, Rama plans to leave early for the afternoon prayer—sometimes, she tells me, other women in the family prepare lunch for them to bring to the fields, where they remain until sundown, planting rice from their nursery (an adjacent raised platform of dirt, where bright clusters of rice stalks stand) in three or more fields.

Image 6: Women transplanting rice in Niafarang (Photo credit: Ashley Fent)

Concerns about salinization, saltwater intrusion, and the mine's exacerbation of these processes has been largely articulated through and politicized because of this central role of rice in subsistence. Cultivation of the African rice species *Oryza glaberrima* in West Africa dates back

at least three thousand years (Carney, 2001; Carney & Watts, 1991), and rice production and consumption (now, mostly of varieties of the Asian rice species, *Oryza sativa*) is essential to cultural identity throughout much of rice-growing West Africa, including its roles in daily consumption, funerary rites, and ceremonies (Carney, 2001, p. 31). For Rama and others in Kabadio, rice is central to food security. Among Mandinka women, the links between rice, livelihood, and sustenance are strong; while women do not own land, they have important roles in planting, tending, harvesting, and processing rice (Carney & Watts, 1991).

For Kalorn residents of Niafarang, the importance of rice is paired with the deep cultural importance of palm wine (*élaniyaa*, in Kulonaay). Joseph, an often-smiling man in his forties, noted that he objected to the mine because "our lives depend on rice and palm wine" (Interview #47, 3 March 2016). A friend, Chérif, and I walked to his field, meeting Joe and Joseph there, under the *jembering* (an open-walled hut structure set so low to the ground that one must duck down to enter). Dusk was falling, and Joseph had stopped working in his rice field, which he had inherited from his grandfather before him. The salt, he said, was everywhere in the village, and the mine would only make it worse. "I was born here," he said. "I don't want to become a stranger in another village." As we discussed this, another man arrived, and then another.

Joe turned to me. "This is called *xonn* in Karoninka," he said: a meeting place where men and women regroup after having collected palm wine. "This is the bush," he said, apologetically, as he handed me a cup made from the bottom of a Kirène water bottle, uncleaned and unwashed, covered in milky white film and residues from past glasses of palm wine. He poured me some palm wine, and we all spilled a few drops on the dirt beneath the *jembering*, for the ancestors.

Dookulaabaa[4] works from sun up to sun down; in the mornings, he is already out in his rice fields during the rainy season or has shimmied up a palm tree with the aid of a *kandamb*—an oblong hoop made out of bark and used for support in climbing (see Image 7)—to collect palm wine or palm seeds, later pounded and boiled by women into bright red palm oil. Around 5:00 PM, he departs on fishing trips, often returning with his catch well after midnight. On one occasion, when I asked Dookulaabaa about the cultural importance of rice, he responded, "We've divided into three groups to do work tomorrow, and you can come to the fields with us, to see the importance of rice for the Jola." This response was highly land- and labor-centered—it expressed the idea that one can only know the land and resources by working them. The following morning, I met the men and women in the fields. Dookulaabaa surveyed his fields, walking barefoot along the raised earthen dikes separating the plots and carrying his *kajandu* (also *kadiandou* or *kayendo*), a long, iron-tipped shovel used among Diola men. A large group of men

Image 7: Man climbing a palm tree with kandamb
(Photo credit: Ashley Fent)

[4] The pseudonym "Dookulaabaa" means "Big Worker" in Mandinka (*dookulaa* meaning worker, with *baa* as a suffix connoting power, size, or importance).

Image 8: Men using kajandu *to till rice fields (Photo credit: Ashley Fent)*

thrust their *kajandu* into the thick mud, overturning the soil and creating raised rows. Women worked a plot nearby, which had already been plowed in this way, perhaps the day prior. The men jokingly invited me to use the *kajandu* to dig a deep cut of soil and flip it over onto the developing bed (see Image 8); the result of my efforts triggered immense laughter. I was grouped with the women instead. At lunch time, we sat under the *jembering* and ate rice and fish out of large shared bowls. Dookulaabaa did not want to *tell* me about the importance of rice; he wanted me to *see* and to *experience* the importance of rice, through labor and ingestion.

Written records by Portuguese explorers date wet rice agriculture among the Jola as far back as the sixteenth century (Mark, 1985), although alternative historical methods suggest it began much earlier (Carney, 2001). Explorers commented on distinctive Jola agricultural practices, involving the reclamation of low-lying rice fields from mangrove channels (Carney, 2001; Mark, 1985). Peter Mark describes the land reclamation process as follows:

> Using a long-handled hoeing and digging tool with a slightly curved wooden blade tipped with iron, the *kayendo*, Diola men construct a series of low earthen dikes around their fields. The cleared land lies fallow for several years while rain leaches salt from the soil, to be drained out through hollow logs that are placed transversely across the ditches. Once

> the new fields are ready for planting, the drains are closed. The dikes then keep the transplanted rice plants under water during the rainy season. (1985, p. 6)

In recent years, with diminished precipitation and increased salinization throughout the sub-region, a number of rice fields have been abandoned. During a group interview with men from the village of Birassou, one man noted that "The rice fields are disappearing. People are buying rice!" (Group Interview #2, 9 September 2015). This comment triggered laughter by the group of men. As previously mentioned, "hard work" in the rice fields is considered by many Jola to be a defining cultural characteristic (Davidson, 2016). As others from Niafarang and neighboring villages explained, purchasing rice was considered shameful, and reflected the person's moral quality or work ethic. "It used to be," recounted Dookulaabaa, "that those who bought rice were considered lazy" (Interview #74, September 2016).

Not growing enough rice for one's family is also considered a personal failing and a sign of laziness among male Mandinka residents of Kabadio. One woman noted, however, the sheer necessity of purchasing some amount of rice. She stated, "We grow rice there [in Niafarang], and only need to buy two additional sacks of rice to get through the year" (Interview #62, 10 March 2016). Yet rice fields continue to supply the majority of household food needs. Based on this centrality of rice production—and specifically, for her, Niafarang's low-lying, rainfed rice fields, rather than the upland rice grown outside of Kabadio—she feared that the mine "will impoverish us."

Residents of Niafarang and Kabadio spoke about the need to "stabilize" the dune and the fields, as expressed by one man's comment that, "If we had machines and new methods, we could grow crops in the dry season. … We need anti-salt dams and gravel to stabilize the rice fields"

(Group Interview #2, 9 September 2015).” During a *kafo*[5] collective work group in Kabadio, another man echoed this idea: “They give us seeds and fertilizer, but what can we do with no machines?” (fieldnotes, 22 September 2015). Village residents demanded stability, and investments to secure and fix the rice fields, the dune, and the land, to “hold back the sea.” Their imaginings of the future focused on a more “developed” version of the agricultural past, rejecting radically different economic and ecological futures associated with mining and extraction.

The former Lead Conservationist of the Marine Protected Area, who had been reassigned to a Dakar-based post after his vocal opposition to the mining project, echoed these concerns, noting that the EIES had failed to adequately calculate the economic costs of the project. “How will they fill their rice granaries?” he asked, referring to Niafarang village residents. “They have an autarkic economy, they can earn 500 fCFA[6] per liter of palm oil, and get 20 liters per day. That’s 300,000 fCFA per month, for seven months. Did the study take that into consideration? There’s palm trees on the dune—did they calculate that?” (Interview #35, 19 October 2015). Like village residents, he was particularly critical of Astron’s offer to install fruit (mango) processing facilities as part of their community development strategy. Misremembering this as banana plantations, he noted, “Replacing rice cultivation with banana farms is replacing self-sufficiency with dependency, and they’ll be obligated to sell those bananas at a price set by the buyers and the market” (Interview #35, 19 October 2015).

[5] Judith Carney and Michael Watts (1991) note that women’s *kafo* were historically a rotating, reciprocal labor group organized by age cohort. Large groups of women hired themselves out for the day to those who were incapacitated or unable to go to their fields, using the money for community and ceremonial aid. In the project they examined in The Gambia in the 1980s, *kafo* earnings were transformed into a wage, divided among the women members of the group (Carney and Watts, 1991, p. 677).

[6] In 2015, the exchange rate to the US dollar ranged from 570 to 620.

This cultural value around land and rice meant that people strongly identified with rice cultivation and in following the traditions of past generations, who had come to the village and had brought the fields under cultivation. One village elder in Niafarang described histories of cultivation and the potential disruption posed by extraction: “Ever since ancient times, the lives of our ancestors have depended on those rice fields and on that river [the mangrove channels]. So, if they come today to mine that dune, how will we—who depend on agriculture, who can’t even hope for a salary, who don’t earn a wage—survive? That’s why we don’t want mining here” (Interview #51, 4 March 2016). As another village resident said, “If my family loses our rice fields, how are we supposed to survive? There are no salaries here, and no jobs. We depend on rice” (Interview #82, 22 September 2017).

Yet these declarations were also at odds with actual realities in the village, which entailed out-migration of junior members of the household to Dakar, Ziguinchor, or elsewhere to send remittances home, as well as tourist lodges that hired small numbers of employees (including some of the individuals who have claimed that “there are no salaries here”). This expresses a paradox discussed through far richer ethnographic detail by Joanna Davidson (2016), in which ethics of “hard work” around rice are promoted as central to Jola identity, even as declining rainfall, increased out-migration, and other variables render subsistence rice production more and more precarious. She suggests that this “paradox of custom” creates a cleavage between idealized practices, seen by people as constitutive of their identities and cultures, and the actual outcomes of their labor (Davidson, 2016, p. 98). As she argues: “The cleavage separates the performance of hard work—and the social and ritual mechanisms that enforce it—from the realities of a changed physical and social landscape that makes wet rice cultivation, as it is currently practiced, increasingly untenable as a way to provision Jola households” in Guinea-Bissau (Davidson, 2016,

p. 98). Yet she shows that forms of work other than wet rice cultivation are considered secondary forms of labor, which do not maintain the same cultural resonance and links to ancestral modes of living. In Niafarang, narratives of loss, nostalgia, and neglect proliferated in the villages, framing village residents' experiences of environmental change, their expectations of development, and their refusal of resource extraction, based on hybrid understandings of the function of HMS and the dune in securing and stabilizing the future of rice production.

The land is sacred and cannot be sold

One male village resident of Niafarang expressed this common refrain about the nature of land, during a village meeting in 2015. "They take us for ignoramuses," he said. "For the Casaçais [people of Casamance], the land is sacred. It is not sold." He continued, "God gave us this land, and we came from as far as Kolda to come here." He then went on to describe the three types of land that exist according to custom: inhabited land, cultivated land, and sacred land (Group Interview #1, 12 July 2015). The sense of the land's sacredness has two key manifestations in the area. One refers to views of village ecologies as populated and governed by spiritual entities. This view occurs predominantly in Niafarang. Another, common to both Niafarang and majority Muslim, Mandinka Kabadio, refers to a respect for traditional purposes of land—or, as one Kabadio man expressed it, being "loyal to our land," and cultivating crops in the ways that previous generations did (Interview #64, 10 March 2016).

The Kalorn view the natural world as inhabited by spirits—this is both an outward and obvious fact of village life, and deeply secretive, with detailed information off-limits to the uninitiated. In Niafarang, two separate, non-administrative, ritual chiefs manage the communication with and appeasement of spirits through village shrines (*fétiches*)[7]. These chiefs

[7] This could be translated as a "fetish," in keeping with rich debates about anthropology's examination of "fetishes" and the colonial imposition of the term on African practices and belief systems (e.g. Graeber 2005; Taliani 2012; Pietz

are selected through village meetings following the death of an existing chief; a chicken is slaughtered, and whomever its body finally falls in front of becomes the next chief (Interview #51, 4 March 2016). Shrines—often large shells or thick grasses knotted into dried shapes—are hung or placed in particular trees; the shrine against thievery, for instance, is tucked into a tree infested with a parasitic vertical vine species. Shrines also exist to protect village residents against illness or injury, to bring wealth or love, or to guard against and resolve problems (Interview #51, 4 March 2016).

It is widely believed, among village residents and state agents alike, that the most potent shrines in the area are found in the Karon Islands. Indeed, state agents told me on more than one occasion that they wouldn't dare enter the islands, and certainly not in uniform, because of the strength of the shrines' power there. Village residents noted that the islands teemed with illegal marijuana plantations, protected by the shrines against outside influence by Senegalese law enforcement. And, when a European resident and hotel owner found himself the victim of the theft of a massive amount of cash, the customary chiefs felt it necessary to leave Niafarang and go the islands to make offerings, demand the return of the money, and ask for the thief to be revealed.

In Jola cosmology, there is no clear distinction between the physical and spiritual worlds, or between visible and invisible forces, and daily life experiences are affected by forces beyond human perception (Mark, 1985, p. 86, 1992, p. 102). As we discussed shrines one evening, Etey, one of the ritual chiefs in Niafarang, remarked on the moth that was batting around my head. "He

1985; MacGaffey 1994; Mudimbe 1988; Guyer 2004)—as well as its adoption within Marxian work on the fetish of commodities, as masking the social and economic relations that are conditions of their production (Marx, [1876] 1976; Taussig, 1980). Anna Tsing (2000) has also interpreted mining contracts in Indonesia as a "fetish," used to demonstrate certain kinds of relations between the state and the world. Here, I have opted, however, for translation as "shrines," echoing work by scholars who have worked among the Jola (Baum, 1999; Linares, 1992; Mark, 1985).

says that moths are the sign of strangers," said a friend who was translating from Kulonaay into French.

"What stranger?" I asked.

"We don't know yet, just a stranger who will come soon," responded Etey, which my friend translated. The shrines, as well as numerous other entities and practices that link the visible and invisible, and the physical and social, are the intermediaries between humans and *Emitay*—god, but also referring to "sky," "rain," and "year," who represents oneness and all-encompassment (Mark, 1985, p. 83). *Emitay* is inaccessible to humans, and linguistically is rooted in the word *irit*—"that which cannot be known" (Davidson, 2016, p. 115).

Among the Muslim Mandinka, beliefs and practices linked to spirits are much more muted, given Islam's strict disavowal of traditional belief systems. But even in Kabadio, for instance, certain "sacred" forests are restricted from agricultural use. Mohamadou explained this, as we walked through the Panthers' Well forest. Long ago, land in the Panthers' Well was planted in rice by the village. The rice that they harvested was "beautiful," he said, but everywhere it touched went up in flames, burning the rice along with it. People were desperate, building granaries to store the rice or taking it far away from anything that could combust. But the flames raced across the sand to consume and destroy the rice. After the terrible famine that resulted, people didn't dare produce rice there. Those clearing land near the Panthers' Well, said Mohamadou, know when to stop when they hear a "voice" coming from the forest. In the sacred forests, says Mohamadou, men from the village can confront each other about problems, guided by the central principle of the *droit de l'aîné*, or gerontocratic seniority. "Even if you are right," he said, "your older brother will say, 'So it is I who is lying, then?' And you will back down." The problem will be resolved,

because the younger man is rendered powerless. Nothing uttered among the men ever leaves the sacred forest, Mohamadou said.

The Kalorn and other Jola groups view these forests as inauthentic "sacred" forests. Their own sacred forests, one for men and one for women, involve rich spirit life and communications, are managed by customary chiefs, and include strict rules of land use and entry. Women are not permitted to enter men's sacred forests, and vice versa, and no access to these forests is granted to those who have not been initiated according to Jola custom (De Jong, 2002, Mark, 1992). As a link to both ancestors and spirit worlds, land maintains cultural values that prevents it from being seen as strictly exchangeable.

***"The sea will crush us"* (La mer va nous défoncer)**

On one trip to the beach, Dookulaabaa pointed to the sand bar around 500 feet away, now separated from the bank we stood on by a channel of water. He said he used to harvest palm trees that grew all the way out to areas now under several feet of water. During fieldwork, Dookulaabaa asked me frequently if I had been to the beach, to see the progressive collapse of Diamé's house into the sea. "Diamé's house is completely gone now," he reported in 2016. And on another occasion, he complained, "The sea is eroding the coastline. And because we're near the [Gambian] border, we've been forgotten. There is no electricity, no hospitals. The school was built by people from the Netherlands. There's no maternity ward, so children are all born at home like in the olden days. The state has done nothing for us here."

We sat together in his home, with a local friend who translated from Kulonaay into French on my behalf, as I asked him about the mining project and the rice fields. (Dookulaabaa often spoke to me in Kulonaay, and was frustrated that I had not yet mastered the language.) "They did the environmental impact without talking to us," he noted. "I'm from Boune, and I'll go back there

if they mine the zircon here. But my father left there before I was born. If I go back, I'll know no one, I'll be a stranger there" (Interview #74, 11 September 2016). Having grown up in Niafarang, he commented on the changes he had seen, as the sea carved into village land. "My father crossed at the other side to harvest palm wine, over there after the river, near Diamé's house. Now, there are no more palm trees over there, because all of them have fallen into the sea. Now no one can collect palm wine there, because there's nothing, as a result of erosion. Before, at the start, my father had his nursery there. There were lots of young palm trees. There was even a small path where you could cross. But now, all that is over. Everything is gone" (Interview #74, 11 September 2016).

Dookulaabaa's narration illuminates the depth of loss that is already felt in Niafarang as a result of coastal erosion and sea level rise. It also illustrates the ways in which the proposed mine is seen as building atop this destruction, exacerbating ongoing processes, and further dispossessing villagers of their means of livelihood. One of Dookulaabaa's neighbors in Niafarang drew upon observations of the rising sea in commenting on the mining project. "The sea will crush us" if the mine begins, he predicted (Interview #56, 8 March 2016). The sea is seen as an agent that has already eaten away parts of the village—a process that will be exacerbated by changing the dune's role as a natural barrier, discussed later.

Yet the sea's ravaging of the coastline is not seen as purely natural. Some village residents —informed by international conservation discourses and state agents' environmental awareness-raising—see the processes of sand erosion as linked to anthropogenic forces, including (now illegal) sand collection for local house construction and the effects of anthropogenic climate change. Villagers are also aware of the Senegalese government's role in constructing sea walls in

highly urbanized areas like Rufisque, and view their own lack of a sea wall as a form of governmental neglect.

Residents frequently comment on the economic differences between Niafarang and European cities that can more effectively manage flooding. As a group of men in the nearby village of Kabadio noted, “In Europe there are floods, but they are wealthy [*ils ont des gros moyens*]. We don’t have any means, what are we supposed to do?” (Interview #70, 11 March 2016). They continued, “We’re under-developed, and now they want to under-develop us even further?”

Joe, who worked for a Dutch owner of a village hotel in Niafarang, also drew on comparisons to Europe (albeit in a very different way):

> The consequences are big. First, the advance of the sea. … The saltwater may come in the rice fields. In fact, now, already, we have saltwater starting to come into the rice fields, we have started to experience that. And we also fear to lose the village one day. Because we can’t float. [laughs] You see, according to Albert, it could be the whole village, because we are in a very low area. We are like Holland. [laughs] (Interview #46, 3 March 2016)

As one man stated during a village meeting, “Our concern here is to push back the sea, not speed up its advance. So we are definitively *hani* [opposed, literally “no” in Jola and Mandinka] for the mining project” (Group Interview #1, 12 July 2015). When I asked whether they were taking actions to “push back the sea,” the man responded: “We don’t have the means here to push it back. But if someone wants to invest or bring a project here, it should help us to push back the sea.” Another man added, “And increase tourism.”

***“The salt is rising”* (Le sel est en train de monter)**

As Joe noted in his comments, one of the important ways that the advancing sea is experienced is through the rising salt in rice fields. This has been a problem persisting in villages since well before the mining project was conceptualized; some residents noted that it resulted from declining precipitation in recent decades and road construction. One woman, who had fields in

Niafarang, noted that the construction of the small bridge had impacted the flows of water to the rice fields and had led to salinization (Interview #80, 22 September 2017). She inherited the fields from her maternal grandfather, who had obtained the land through the labor of cultivation and had requested land rights from the chief of Kabadio. The salt and saltwater are often described as agents of destruction: "Saltwater is attacking nature" (Interview #56, 8 March 2016), or "The advance of the sea is attacking the rice fields, and there are some that have already been abandoned" (Interview #43, 1 March 2016). With less vivid language, Ramatoulaye's great-uncle told me, "Salinization has reduced the harvests [of rice]" (Interview #77, 20 September 2017).[8]

The arrival of the mining project and predictions of its environmental effects were fused with these understandings of salinization. As Joseph stated, extrapolating a causal relationship from his observations: "The salt has been rising [in rice fields], ever since they took samples" (Interview #47, 3 March 2016). In his interpretation of these events, he pointed to a connection between the geologists collecting HMS samples and the exacerbation of salinization.

Many women in Niafarang articulated their concerns about the mine through discussions of the invading salt[9] and its impacts on agriculture. One woman commented that the fields were "how we feed our children, and the salt will come in" as a result of the mine (Interview #67, 11 March 2016). Another cited "the advancing salt" as the reason why she was opposed to the mining project (Interview #66, 11 March 2016). A third commented, "*Nji lafit, oni ulafiyut* [I don't want it, we

[8] In the Casamance estuary, many rice fields are reclaimed from mangroves and mudflats through a complex management system involving dikes and flooding. The fields described here are not reclaimed from mangroves, and they experience increased levels of salt in the soil because of both decreasing precipitation and saltwater intrusion into groundwater.

[9] It may be interesting to note how these vernacular descriptions of advancing, rising, and invading salt compare with how others outside the village discuss these problems. Echoing the explanation of salinization as an "attack," a local mayor explained salinization as an "invasion by salt," in which "salt has entered the water table" (Interview #44, 2 March 2016). By contrast, a national environmental official explained this in common hydrological terminology applied to coastal aquifers, as "penetration by the saltwater wedge" (Interview #73, 17 March 2016).

never want it]. It would destroy agriculture, we won't have a good life. How will our children live here? The advance of the sea wears on [*fatigue*] our crops, and we want to block the salt, but we don't have partners who want to help against the advance of the sea" (Interview #68, 11 March 2016).

For a male village resident as well, mining would accelerate salinization: "My rice field is over there, and I've already lost a lot of it because of the rising salt. If they mine, there will be no rice fields left. There was an anti-salt dam, but it didn't work. Digging into the dune will speed up the advance of the salt" (Interview #82, 22 September 2017). Ongoing problems with salt, combined with perceptions of neglect by the state and outside actors (who had failed to protect the village from salinization), therefore informed reactions to the proposed mining project.

Many older men recounted childhood memories of going swimming in the river channels between Kabadio and Niafarang, using memory to narrate the present and the predicted future. "We called it *Baring jabali*, the river that has neither high nor low tide" said one man. "The mangroves there were so tall that you couldn't have seen someone holding up his hand, and the chief used to have to send out rescue teams. Now, there is no water left." For men, these mudflats, crusted with a thick layer of salt, were a landscape of ecological loss.

For women, however, mudflats are a space of economic production. Groups of women from nearby villages set up contraptions that hasten evaporation and collect salt, which they use both for household consumption and for sale. Thus, among the women that I spoke to, there was less concern about *Baring jabali*'s disappearance or the decline of mangrove tree species—which, as Marie-Christine Cormier-Salem (2017) points out, are merely one feature in ecosystems constituted by many species, micro-environments, and use-values—as a result of declining precipitation and saltwater intrusion. For women, a sense of loss in these environments focused

primarily on the declines in commercially useful species, such as mangrove oysters or fish, rather than on more abstract ideas of forest degradation.

Among women, decreases in rainfall and changing coastal dynamics, including the advance of the sea into the lands west of the dune and the groundwater underneath it, were discussed primarily with reference to well water. In recent years, wells in the northern sections of the village have become too salty to drink from. Only one well in the village, near the central kapok tree, has not yet been abandoned to salt.

Vélo, the elderly village chief's wife, spends much of her time collecting water, engaging in household work, and cultivating rice. On occasion, when she drinks milky white palm wine or *soumsoum*, a strong cashew liquor, she dances wildly, or makes comments that trigger hysterical laughter among those around her. One Sunday morning, seated on the ground and having drunk some palm wine, she looked up at us and said, *à propos* of nothing, "I'd like a bicycle, so that I can ride to school."

Yet Vélo was also easily angered by discussions of the mining project. Sometimes, she refused outright to discuss it with me. "I've already told you I don't want it," she said, in 2017. "Why do we keep talking about it? I told you *hani,* no to the project." On instances when she is willing to talk, she stresses the impacts she fears it would have on already stressed water supplies. During one village meeting about the mine, Vélo and some other women approached me after the meeting dismissed prematurely, in the shadow of a monstrous gray raincloud. "*Hani!*!" they shouted—no, in Jola. "How will we get water if it's all salty?"

With declining rainfall in recent years, she and other villagers have already noticed the progressive salinization of rice fields, rendering some of them uncultivable. Vélo describes this as an "attack," and as destruction of both the land and the people who depend on it. "We only know

agriculture and nature," she tells me. "The salt water will destroy the rice fields" (Interview #43, 1 March 2016).

Dookulaabaa also noted a progressive salinization of his fields. "The cultivable area has shrunk," he told me one day, walking through his fields. "I've had to start cultivating those fields over there instead." He pointed at a green algae-like substance in between the rows of his fields. "The water table is getting salty. The salt water seeps up through the soil, and nothing will grow."

With varying degrees of technical explanation, residents of Niafarang, Kabadio, and other nearby villages circulated apocalyptic descriptions of what could happen as a result of mining. Residents of Katack, a Kalorn village northeast of Niafarang, explained that "the mine is going to reach the water table and create a desert here" (Group Interview #10, 15 January 2016). They feared this affecting their own village as well, given ongoing problems with water and the "advancing salt." "We don't have the means to fight the salt," one man said, echoing the metaphor of combat. "We're requesting an anti-salt dam from the government, but it's still in process." A woman in Kabadio also viewed what she referred to as the "*tubaabu exploitation*," a foreign mining project, in similarly disastrous ways. She described fears of "dead, dry trees," "unusable rice fields," the disappearance of mangroves and the oysters that grow on them, and "the disappearance of orange trees" (Interview #58, 9 March 2016). Vélo, in her comments, noted that mangroves already experienced diminishing numbers of fish, because "the water is too salty." With the mine, predicted Vélo, "*tout le village sera le sel*"—the entire village will be salt (Interview #81, 22 September 2017).

***"The dune is a barrier"* (La dune est une barrière)**

Experiences of the sea's encroachment into habitable and cultivable space and, relatedly, salt's invasion into groundwater and rice fields are influenced by deepening understandings of the

sand dune and heavy mineral sands within it. The sand dune from which HMS would be mined is repeatedly described in Niafarang as a natural "barrier"—one of the few options for holding back the sea and saltwater, in the absence of other means to "push back the sea." Etey, explaining the potential consequences of the mine, noted that mining would adversely impact the dune. "All of our lives," he said, "and all of our resources we need to survive, everything depends on that dune being behind the rice fields" (Interview #51, 4 March 2016). One village resident, a soft-spoken man often in charge of amassing palm wine for village events, explained: "The dune is the barrier between the sea and the rice fields" (Interview #60, 9 March 2016).

Women, too, expressed this understanding of the dune as a natural barrier. A woman working in her vegetable fields on the dune noted that "The dune is a barrier between the rice fields, the sea, and the village" (Interview #66, 11 March 2016). She added that her husband grew rice in Niafarang, and at high tide during the rainy season, they already had problems with sea water entering their fields. Like many others, she saw problems with flooding and saltwater intrusion as to some extent mitigated by the dune and predicted disaster, were HMS to be removed through mining.

Residents also spoke about this in the context of sand mining bans enforced by state-appointed environmental agents. As another man argued during one of the public forums conducted for the Niafarang Project, "It's illegal to take marine sand, because it facilitates the encroachment of the sea [*l'avancée de la mer*]. But they're going to extract a million tons of sand, in an area that is a barrier against the salt and the sea's encroachment" (Group Interview #1, 12 July 2015). After highlighting this hypocrisy regarding the government's positions on construction sand removal and HMS removal, he continued, "They're going to take the *heavy* sands. The zircon holds backs and stabilizes the soil." Here, he drew on understandings of the role and function of

HMS in the dune, and in the broader geo-ecological processes in which the dune itself played a role.

This understanding echoes explanations offered by Albert (mentioned in Chapter 2), who also spent several months a year working with a women's group in the Karon Islands to boost salt production, taking advantage of salinization in mangrove mudflats. As Albert stated: "The Casamance coast is not rocky, so it's those heavy mineral sands that hold the coastline in place. If you remove 1.5 million tons of heavy minerals, and you don't replenish the dune, you no longer have a dune, but a butte. And a butte doesn't play the same hydraulic role. It's too small, and too fragile" (Interview #79, 21 September 2017). As Albert explains, "When they did the study, they took 18 samples of water, from wells that existed. They saw that the wells in the northern part of the dune, the water is weak there. There's saltwater intrusion, the water is brackish. The height of the dune is made up of very porous materials. When it rains, the rain easily penetrates the surface, with little runoff. Rain water is less dense than the salt water. Given the height of the dune, it makes it a very effective hydraulic barrier. That's why when we've dug wells behind that dune, there is fresh water" (Interview #79, 21 September 2017). A young man from Kabadio re-iterated this explanation: "The dune will be lowered [*baisser*], and the rice fields and homes will be flooded" (Group Interview #6, 12 September 2015). As another man in Kabadio stated, "That dune protects our environment" and guards against the advancing sea (Interview #64, 10 March 2016).[10]

In all of these explanations, the dune features as a "barrier," whose compositional sands allow it to serve particular functions within the local socio-ecology. The HMS within it "stabilize"

[10] An environmental official also explained that the dune was a "buffer zone" against salinization, because all the houses and rice fields in Niafarang are at a lower elevation than sea level (Interview #35, 19 October 2015). "There are interdependencies in the ecosystem," he added, and the dune was a buffer that attenuated erosion, to some degree.

the coast, granting an albeit precarious and eroding sense of stability that is juxtaposed against the state's unwillingness to help "hold back the sea" or protect rice cultivation. The height of the dune—which would be reduced if HMS were removed—allows it to "protect" the village and rice fields from the steady encroachment of the sea. And, as discussed in the next section, the stratification of its sands allows for the filtration of water and the capture of salt from the sea water encroaching deeper into groundwater sources. This resource ontology surrounding the dune and the HMS it contains stresses their pivotal role in securing agriculture—the basis of life and livelihoods. Removing them, it is feared, would create instability and destruction, in a region where the dune is one of the few sources of protection against the sea.

Marine Protected Area

Another lens through which environmental concerns about the mine were discussed—though only by men—was the Marine Protected Area adjacent to the proposed mine. Some men highlighted that the mine could impact the beaches where turtles nest (Group Interview #1, 12 July 2015) or the mangroves. Notably, women did not cite the MPA or concerns about non-economically useful species in their objections to the mine, although both men and women in Niafarang work with the MPA. Some men are enrolled into the participatory conservation approach as volunteer "eco-guards," who patrol the MPA and report people violating its restrictions on tree cutting, sand mining, and fishing within its limits.[11] Women are involved in collecting *Rhizophora* mangrove propagules, for which they are paid 1500 fCFA per sack, for the MPA's mangrove reforestation campaigns. They are also involved in reforestation campaigns and

[11] It should be noted that the MPA is controversial. Itinerant fishermen, many from northern Senegal, are strongly opposed to it, complaining about its restrictive nature and the excessive length of its extent out to sea. Residents of Abéné who rent rooms to the fishermen and their families, and the village chief himself, express frustrations with the MPA agents' arrests of those fishing or cutting wood illegally, as this makes the area inhospitable and takes away possibilities of income generated from renting or selling to fishermen. In Niafarang, complaints about the MPA often stress preferential treatment of certain villages and individuals, and under-utilization of the eco-guards in activities.

have worked with the MPA agents and village men to install oyster "farms," shells strung vertically and partly submerged—a way of discouraging cutting the mangrove roots upon which the oysters naturally grow.

While the MPA was a major component of the EIES, and one for which the Technical Committee demanded additional data, it rarely featured in the widespread narratives of feared loss and destruction as a result of the mine. It was, however, deployed as a strategy of opposition to the mine. During one meeting among Committee members, village residents, and resident *tubaabus* in the area, the MPA came up as a potential organizing strategy. Rumors have circulated that the Senegalese government redrew the limits of the current MPA in approving the mining exploration license, such that two concessions would not overlap (though I have found no evidence of this in governmental decrees delimiting the coordinates of the exploration license and the MPA boundaries). At the meeting, a couple of members of the Committee suggested petitioning for an extension of the MPA limits, using this as leverage against the mine.[12] Men involved in the MPA's activities also noted that the MPA constitution developed among state agents and community members strictly forbade mining, because of adverse impacts on already sensitive coastal dynamics (Interview #72, 13 March 2016).

Visions of Local Development

In earlier phases of exploration, the Niafarang Project was seen as a potential source of development. At a village meeting in Niafarang, Joe and Dookulaabaa narrated how this understanding transformed from one of developmental possibility to environmental catastrophe. Joe began: "An environmentalist and geologist came from Ziguinchor to explain. They had found

[12] At earlier points in fieldwork, Committee members had also discussed petitioning for recognition as a UNESCO World Heritage Site or other international environmental protections that would act as a block against extractive development.

something in the dunes, and everyone was happy about this, because it meant development. But when they explained that they would have to dig 14 meters down, which would invite the sea into the groundwater … people didn't want it" (Group Interview #1, 12 July 2015).

"And," Dookulaabaa continued, "there would be consequences for the rice fields. We already have problems with potable water in the village, and if they contaminate the aquifer, that's just going to exacerbate the problem."

In tracing ecological concerns, which both preceded and intersect with the mining proposal, a common theme emerges. Each concern combines observations and explanations of ongoing processes, fears of the mine's potential, and the articulation of demands for "alternative" modes of development: for anti-salt dams, farm machinery, sea walls, external "partners" to finance projects, eco-tourism, and extended MPA limits. What is striking about these demands is that they are not "alternatives" to mainstream developmentalism in any obvious way. And yet, in Niafarang and surrounding villages, differently positioned individuals expressed desires for many of these problematic and oft-critiqued aspects of mainstream "Development," shown in many cases to be out of sync with actual local contexts, practices, and aspirations (Escobar, 1995; Ferguson, 1994; Scott, 1998).[13] Yet development is also incredibly attractive, as a means of articulating desires for

[13] Many have argued that mechanized and industrial agriculture exacerbates social stratification and vulnerability (Carney & Watts, 1991; De Klerk, 1984; Watts, 1983) and generates ecological problems (Altieri, 1998; Blaikie, 1985, p. 143; Kimbrell, 2002), encouraging agroecological approaches instead (Altieri 1995, 2002; cf. Woodhouse, 2010). Scholars have also been critical of the social, political, and ecological ramifications of sea wall projects (Colven, 2017), increasingly favoring "soft" or ecosystem-based approaches to adaptation infrastructure (Jones, Hole, & Zavaleta, 2012; Wesselink et al., 2015). Anti-salt dams and dikes, though predominating in adaptation projects elsewhere in the country ("Adaptation to Coastal Erosion in Vulnerable Areas," 2014) and constructed by the Senegalese government in Casamance in the 1980s and 1990s (Barry, 2009, p. 107), have been similarly critiqued, in generating adverse impacts on broader ecosystem function (Carney, Gillespie, & Rosomoff, 2014, p. 130) and aquatic species (Le Reste, 1988). These small dams were intended to protect floodplains from incoming marine water, which, amid drought, led to hyper saline conditions. This allowed for the reclamation of rice fields (Barry, 2009), but also created downstream salt concentration, leading to mangrove degradation (Carney et al., 2014). Mainstream tourism (Britton, 1991; Enloe, [1990] 2014; Muzaini, Teo, & Yeoh, 2007), as well as its volunteer, ethical, non-consumptive, or ecologically sustainable varieties (Belsky, 2009; Duffy & Moore, 2010; Mowforth & Munt, 2016; Mostafanezhad 2013; Raymond and Hall 2008; Palacios 2010; Gibson, 2010; Meletis & Campbell, 2007), are so widely critiqued that they cannot be extensively reviewed here; the same applies to

improved conditions and rights as citizens (Gidwani, 2002). As alternatives to extractivism, these visions of development highlight keeping open multiple *possibilities* and thereby the hope for realizing the potential of what is already there.

The particular brand of tourism seen as an alternative to extraction is one in which *tubaabus* have in the past donated large sums of money toward building schools, installing solar panels, establishing teacher exchange programs, and marrying locals (including the village chief's daughter, who married a French tourist). The chief's wife, for instance, commented, "Before selling the land [to the mining company], we should leave the dune for the *tubaabus* who can come create development." She continued, "If the village is going to be developed, it's not an exchange. We have a right to electricity, like all citizens. It shouldn't be an exchange for something else" (Interview #43, 1 March 2016).

Mohamadou also highlighted the investments made by tourists: "It's tourism that brought us schools and medicines. If you remove that dune and destroy the nature upon which eco-tourism is based, we'll remain in this poverty. And on top of that, we'll have salinized rice fields" (Interview #24, 16 June 2015). On numerous occasions, village residents complained that tourists interested in nature would never want to come visit a mine site in Niafarang, and that the mine would destroy any chance of taking advantage of a slowly growing tourist industry in the area.

Yet aspects of the tourist industry were also often critiqued by villagers—the poor and irregular pay, the preferential treatment for very few jobs, the sensitivity of tourism to political events or outbreaks, like the Ebola outbreak that residents complained had weakened tourism in

literatures critiquing Protected Areas (Neumann, 1998; Schroeder, 1999a; West, Igoe, & Brockington, 2006) as well as participatory conservation models (Lowe, 2006; West, 2006).

2014 and 2015. *Tubaabus,* their escapades, and their generosity were also frequently the subject of village gossip.

But in spite of the many contradictions that I do not attempt to resolve here, what do tourism and other non-"alternative" alternative forms of development *do*, as a foil to the vision of extractive development? As alternatives to extractivism, the developmental demands made by village residents are represented as retaining the functional (yet perilous) synergies between the dune, HMS, and rice fields. They bring in aid or investment without removing the functional aspects that make life possible. As Joseph said, echoing many others, "If an NGO or a partner wants to help us, we'd accept, but not to mine [*exploiter*]. We're better off being left alone" (Interview #47, 3 March 2016). As some men argued during a group interview, the mining project would be just another example of the Global North's "theft" of natural resource potential. As one man said, "The riches are for *you*, and we Africans are left with garbage" which triggered laughter among his colleagues. The man continued, "It's only destruction that they're bringing us" (Group Interview #2, 9 September 2015).

Astron has persistently made attempts to appease demands for "development," electrification, hospitals, schools, and mango farms. The very things village residents demanded were the amenities offered by the company, as social concessions offered in exchange for extraction. Yet villagers vehemently rejected these offerings. As Vélo and many others noted, these things were part of their *rights as citizens*, not part of an "exchange" of extraction for development. They also rejected them because electrification, hospitals, and schools, though very much desired, would come at the expense of life-granting mineral sands, whose materiality enabled the production of life in Niafarang. Any investment that could potentially remove that matter was seen as a direct assault on the village's survival. By contrast, investments by *tubaabus* in agricultural

development, school construction, solar panels, or tourist lodges—while the subject of much critique—was viewed as giving without taking away the possibilities of producing future life.

As Mohamadou noted, development is often accompanied by the destruction of nature. "The director told us that we need to accept development," he said, "and that even in developed countries, people have to accept development's consequences for nature. But developed countries can predict catastrophes, whereas catastrophes surprise under-developed countries" (Interview #24, 16 June 2015). For him, extractive development relied on predictive capacities from the Global North. In this view, the mine would result in unpredictable catastrophes that the locality and Senegalese state would be under-prepared to address.

The form of money that extraction would bring was also seen as unstable. Investments and money will run out, both women and men noted, whereas the rice fields and the oil palms can be harvested every year (at least in theory). This stream of money is seen as more consistent, and more reliable, than a large mining investment that could generate a burst of wealth but is feared to destroy the basis of lives and livelihoods in nearby villages.

In addition, village residents frequently referred to the need to "enact alternatives," by planting trees on the dune. For instance, in a village meeting in Niafarang, one man declared, "We have mobilized to increase the value of that dune [*valoriser*]… Defending ourselves against the state is very difficult, so we need to plant trees and develop the dune as quickly as possible" (Group Interview #1, 12 July 2015). Two years later, during a short return visit, Souley proudly showed me the cashew tree saplings the village had planted on five hectares of the dune (fieldnotes, 29 September 2017). Many of those who advocated this strategy of afforesting the dune had worked with the MPA in its reforestation campaigns and found tree planting important to ecosystem restoration. Planting trees has also emerged out of collaborations between environmental groups,

resident *tubaabus*, and local environmentalists. I nevertheless found this perplexing. How could planting trees be construed as an equivalent "alternative" form of development to extractive development, which would bring millions of dollars into Senegalese coffers? How would tree planting stop a mining project?

Scholars of forestry in West Africa and beyond have noted the complex systems of ownership that are conferred through the act of tree planting and tree harvesting (Ribot & Peluso, 2003; Rocheleau & Edmunds, 1997; Schroeder, 1999b). Planting trees establishes certain kinds of claims to ecological assemblages (of which land is but one iteration), and thereby confers individual property rights on land under other forms of tenure. In the context of a moratorium on land improvements supposedly issued by the state in 2006 to prevent new construction on land slated for the mining project[14], tree planting was a relatively low-cost form of investment that nevertheless could be used to assert claims to compensation. In theory, economically useful tree species are considered in the equation for compensation. As a DEEC official told me: "Yes, the people who have planted trees will be compensated. Trees, rice fields, agriculture, and homes. That's according to the World Bank, and the treatment of PAPs [Project Affected People]" (Interview #41, 1 March 2016).

Tree planting was constructed as an alternative to proposed extraction in that it created the conditions of prolific possibility, using the dune to produce value rooted in "liveliness" and drawing on ontologies focused on interconnectedness rather than individual properties of matter. The dune, for village residents, should be "developed" in a manner consistent with ancestral ways

[14] Although no one actually saw the decree banning construction (leading some to wonder whether it really existed), it sufficed to convince some Europeans on the dune to stop construction, and led to the relocation of Kabadio's village-run campsite, Campement Mansa Dambel, from the dune to a more remote location, on the *bolong*.

of living, the protections it offers to the village, and the ecological and geophysical roles it plays when embedded in this particular local place.

This complex set of environmental and cultural issues—the importance of rice, the "invasions" by the sea, and the protections offered by the dune—factored into the demands village residents made for visibility, to the state and potential international "partners." The visibility that they demanded was place-based, emphasizing the need to "see" the locality and its particularities. Yacine, a Niafarang resident, also stressed the importance of seeing and visibility. She was tending her fields on the dune when I arrived with a friend who translated for me. It was March, and she had already removed the dead rice stalks from the harvest and was growing vegetables in the plot. Although these particular rice fields belong to male residents of Kabadio, Yacine and other women are allowed by these families to use them following the rice season to grow vegetables for their own use or for sale. Yacine told me: "If you see that we're opposed to the project, it's because they never crossed the dune to see what we're doing here" (Interview #66, 11 March 2016).

Members of the Committee, too, stressed the need for negotiators to come to the dune itself, and the need for the state to "see" the unique environmental sensitivity of the area. One meeting of the Committee was completely derailed from its core objective when someone brought up the need to negotiate "*sur la dune*," on the dune itself. This generated a long and vociferous discussion about the need for the negotiations to take place on the proposed mine site, rather than in Kabadio or elsewhere, and the need for environmental experts, state administrators, and company representatives to make the voyage out to the dune, to recognize its role and function in the ecosystem, and, ideally, to see that the site is unsuitable for mining. It was assumed that ecological sensitivity would be self-evident, and the need for other kinds of development investments made plain.

Conclusion

In this chapter, I have suggested that overflow operates in two key ways. The first is as fears of literal inundation from the mining project and predictions of further "invasions" by saltwater into aquifers. The second is as an excess of environmental understandings about the role of HMS in the landscape and of developmental expectations that grant stability to existing forms of life and livelihood. As articulated in the shadow of the proposed mining project, local ontologies focused on the sacredness of land and the cultural importance of rice and palm wine production. These central principles were seen as jeopardized by "invasions" by the salt and the sea; HMS were seen as granting some degree of stability and protection against these invasions, by making the dune into a "natural barrier."

These understandings challenged not only the findings of the EIES, as discussed in the last chapter, but also the premise of scientific compartmentalization. For instance, concerns about the encroachment of the sea, salinization, and the removal of HMS are all deeply interlinked. When village residents discussed the dune's role as a barrier, for instance, this cannot be decoupled from the importance of rice production, the HMS within the dune, and saltwater dynamics. The divisions I have made here, grouped into narratives, are merely heuristic devices—they do not and should not be taken to signify that these are somehow separate or distinct.

I have also discussed the role of the Marine Protected Area, which entered into certain people's understandings of their environments and the impacts of HMS mining. In particular, the MPA and the way that it represented environmentalism was significant for some men, in informing their conceptions of how the environment operated, what was important, and what held value. Its existence was also used as an organizing tool in opposition to the mining project by some of these individuals and by the Committee.

Various kinds of scientific, cultural, and observational knowledge contributed to forming and building on hybrid ontologies about the nature of life in Niafarang, and the possibilities for becoming in the future. Visions of future becoming hinged on what many described as "alternative" forms of development. Though echoing many mainstream development interventions in the fields of agriculture, tourism, or infrastructure, these were positioned as "alternatives" to extractivism. As such, they all were conceptualized as enabling the continuation and improvement of existing practices and lifeways, as set against the extraction of materials seen as granting stability and protection. Although the mining project offered many of the amenities people often demanded, residents nevertheless rejected these propositions; in the process, they also rejected the idea of development as an exchange (for HMS, in this case). In the context of the proposed Niafarang Project, some individuals set out to "develop the dune" themselves, by planting trees. This was both an alternative to extraction and a way of securing certain types of rights and claims to the site. The debate about the mine and its ecological effects was thus also about the articulation of alternative forms of investment, serious engagement with remedying environmental crises, and the anxieties and imaginings of the future.

Chapter 4: Making a Population: Narratives of Place and Participation

Introduction

Strategies of resisting the Niafarang Project and strategies for facilitating its approval both hinged on the enrollment of a "population" into processes of consultation, decision-making, and validation of the environmental impact study, in accordance with the Environmental Code of 2001. The Niafarang Project EIES asserts that, "The process of consulting and informing the public was conducted properly. To date, this has allowed for all the actors in the study area to be informed and their concerns noted. Except the hotel owners, the population of Niafarang and to a lesser degree the Abéné Friends of Nature Association, the mineralized sands mining venture in Casamance, under the Niafarang permit, is generally favorably considered by stakeholders" (Equilibria, 2010, p. 8). As part of the public consultation process, the EIES study team met with hotel owners, elected local officials, the director of the MPA, village chiefs, and the populations of Niafarang, Kabadio, and Abéné. The document articulated these as distinct populations expressing different sets of concerns and voicing different predilections toward or against the mining project.

Yet the law and its stipulation to include "the public" also informed how the Committee organized opposition to the project. One Niafarang resident and member of the Committee stated, "They have to abide by their own laws. They can't do it because the people don't like it. The population has to agree to it, but 99.99 percent of people in Niafarang are not for the project" (Interview #46, 3 March 2016). Opposition by a presupposed "population" was likewise expressed by another resident during a village meeting in Niafarang: "The state sent a team to do surveys, and they found that the population was 100 percent opposed to the project" (fieldnotes, 12 July 2015). Beyond the village of Niafarang, another founding member of the Committee also referred

to the “population,” but with a vague geographical basis: “We’re here fighting without the means. We’re here fighting for a people [*population*] that is in the face of danger. One could say that this mine, when it occurs, will be dangerous for an entire population, because we’re afraid of the rising sea” (Interview #6, 26 August 2014). Narratives about the mining project frequently invoked a coherent “population” as a basis for political claims-making around opposition to or acceptance of the mining project. Yet the generic, spatially vague sense in which this term was often deployed suggested that the “population” remained very much a work in progress.

It was unclear who or where the “population” was to be found. This chapter troubles the simplicity with which actors invoke the population and public consultation by asking: Who and where is this population, and how has it become a political force? In answering these questions, I show, first, how activists in the Committee utilized the ambiguities in the relationship between population and space in order to produce multiple populations in different geographical places, seeking to increase leverage and stakeholder participation. I refer to this as *“placing” the population*. I argue that placing the population to align with different geographical referents was a tense process that produced valuable solidarities while drawing out contradictions among the narratives of opposition to the mine. In this case, placing worked not by organizing at scales of regulation and policy-making, as for other environmental justice or anti-mining movements (Kirsch, 2014; Kurtz, 2003; Towers, 2000), but by drawing upon place understandings that did *not* exist as formal administrative or regulatory categories; they were powerful and meaningful precisely because of this.

Additionally, I argue that the population mattered because of ambiguities in how the law discussed participatory decision-making. As Nick Blomley ad Joel Bakan (1992) highlight, law remains instrumentally silent on geography, presenting an abstract code of behavior; in the

Senegalese case, environmental law is similarly a-geographical, with stipulations about popular participation in decision-making that remain ambiguous in terms of place and scale. By redefining the "population," the Committee was able to both mirror and exceed the language of the law. They managed to strategically configure the mine's impact in different arenas by producing meaningful places, which contributed to popular mobilization and environmental decision-making.

The same ambiguity also allowed some state actors, village residents, and proponents of the mine to assert more restrictive views of the population, however. Their claims to have consulted the "population" depended on dubious territorial claims to place; as territoriality is about control, these assertions were exclusionary and geographically and socially confined. In other words, the mutability with which the population was spatially constituted allowed for both more expansive narratives of wider publics *and* more restrictive visions about who was entitled to speak for and give consent of behalf of the "population."

The chapter first surveys key literatures pertaining to population and its ambiguous and ambivalent relationships to geographical space, specifically as it relates to notions of territory and scale. It then considers changes in the role of the population within the legal frameworks governing mining and the environment in Senegal since the 1980s, to contextualize the more recent emphasis on public participation. Moving to a discussion of the Committee's organizing strategies, it then describes three place-based narratives through which the population is produced and mobilized: the villages, the cultural sub-region known colloquially as the Fogny, and the historical region of Casamance. For each narrative, I note the ambiguities and contradictions that are masked or transcended in the attempt to produce a coherent population. The chapter concludes by contrasting these narratives with the ways in which proponents of the mine discussed the "population."

Populations and Geographical Space

Population and Territory

In his recent book *Material Politics*, Andrew Barry (2013) seeks to understand how corporations, governments and experts consult, inform, and represent an "affected public," assembling this public around a long stretch of pipeline winding through the Caucasus. In Barry's case, the language of company documents establishes an "affected public" through a focus on impacts, whose effects are measurably "visible" in some places (the corridor) and not in others. Those made visible become empowered as stakeholders in negotiations, entitling them to potential compensation for damages or land acquisition. Yet Barry notes that the impacts of the pipeline reach far beyond the corridor, producing recurrent disputes along the length of the pipeline.[1] While informed by these insights, this study examines how the "affected population" has assembled, represented, and scaled *itself* in Senegal, exploiting spatial and social legal ambiguity that also has allowed others to make counterclaims based on more restrictive understandings of the population.

Government is fundamentally concerned with managing and shaping populations, their needs, and their aspirations. For Michel Foucault,

> Population … appears as the end and instrument of government rather than as the sovereign's strength: it is the subject of needs and aspirations, but also the object of government manipulation; vis-à-vis government, [the population] is both aware of what it wants and unaware of what is being done to it. Interest as the consciousness of each of the individuals making up the population, and interest as the interest of the population, whatever the individual interests and aspirations may be of those who comprise the population, will be the ambiguous fundamental target and instrument of the government of populations. (2007, p. 106)

[1] Similar debates about who is included and excluded from negotiations, based on downstream effects and rights to compensation, have been highlighted in other studies of mining and oil extraction (Golub, 2014; Kirsch, 2014; Perreault, 2013). See, in particular, Stuart Kirsch (2014) for a discussion of how downstream populations impacted by improper tailings disposal into the Fly River in Papua New Guinea became involved and organized as key stakeholders, and Alex Golub (2014) for how the Ipili worked to produce themselves as a coherent group of stakeholders, in negotiations around the Porgera gold mine, also in Papua New Guinea.

In this view, populations are acted upon, created, or manipulated by the governmental interventions of the state or other institutions. The population is more than a simple sum of its components (i.e. individuals)—it is both a tool and object for control, through biopower and technologies over the (re)production of life (Foucault, 2008), or, conversely, what Achille Mbembe (2003) has termed "necropolitics." Technologies like statistics, the census, the creation of surnames, and the formalization of official languages evolved to make a "population" legible to the state and conceivable as an aggregate (Foucault, 2007; Scott, 1998). The population is thereby produced alongside the techniques developed to measure it:

> A constant interplay between techniques of power and their object gradually carves out in reality, as a field of reality, population and its specific phenomena [birth rate, death rate, etc.]. A whole series of objects were made visible for possible forms of knowledge on the basis of the constitution of the population as the correlate of techniques of power. (Foucault, 2007, p. 79)

For instance, producing a "national" population went hand in hand with innovations that facilitated communication and the formation of a national identity, forged out of multiple regional and provincial identities, languages, and affiliations (Anderson, 1983). As James Scott argues: "The builders of the modern nation-state do not merely describe, observe and map; they strive to shape a people and landscape that will fit their techniques of observation" (1998, p. 82).

While Foucault downplays geography as the backdrop against which governmental forms of rule act upon populations, governmentality is nonetheless bound up in distinctly spatial formations. The main way these relationships have been conceived is through territory, also central to Foucault's work. Like the census, statistics, and the map, territory has been defined as "a political technology: it comprises techniques for measuring land and controlling terrain" (Elden, 2013, p. 811). Yet this technology is a condition of a place at a particular time; a place only becomes a territory when its boundaries are used as a mechanism of control, and its status as a territory must

be constantly maintained (Sack, 1986, p. 19). In turn, territory is the product of territoriality—"the attempt by an individual or group to affect, influence, or control people, phenomena, and relationships, by delimiting and asserting control over a geographic area" (Sack, 1986, p. 19). It is an effect of socio-technical networks rather than a static container for their actions (Painter, 2010).

Scholars have suggested that governmentality depends not only on managing populations, but also on mapping and (re)making territory and biophysical characteristics of surface and subsurface environments (Braun, 2000; Moore, 2005). Population and territory are seen as co-constitutive: territory emerges as an effect of distinct practices of collecting knowledge and exerting control over populations; at the same time, these territories become meaningful spatial referents through which populations frame their relationship to state power. In African contexts, colonial strategies mapped territories of governance onto different ethnic or racial groups. The populations consequently produced were then to be monitored (Ralph, 2015, p. 3) and governed according to their own customs. The French referred to this as the policy of *association* while it was known as "indirect rule" among the British in India and Africa (Boone, 2007; Mamdani, 1996). Establishing manageable populations was thus instrumental to the ability to rule them, to extract taxes, to control their movements, and to determine allocations of land. Two separate sets of laws governed populations and land: one, based on liberal individualism, allowed those considered citizens to privately own land titles; the other, based on communal land tenure and the tenets of indirect rule, allowed colonial subjects to access land as a condition of membership in supposedly indigenous, autochthonous, and traditional tribal or ethnic communities (Mamdani, 1996).[2]

[2] Mahmood Mamdani (1996) refers to this system as a "bifurcated state." He argues that this bifurcated state, produced through colonialism, has nevertheless endured in many postcolonial nation-states, and that this dual set of laws over people and land demonstrates that apartheid was not in fact the exception in Africa, but the rule.

Territory offers an important window onto colonial practices of power, but it is not the only spatial referent through which actors articulate opposition to the Niafarang Project. In African contexts, power has not so much been framed as having territorial properties, so much as deriving from control over people (rather than space) (Herbst, 2000), from the diverse and often gendered access and use rights to land (Ribot & Peluso, 2003; Rocheleau & Edmunds, 1997), and from the highly politicized relationships between sedentary farmers and pastoralists (Bassett, 1988). Furthermore, "control" of the territory, while *de jure* rooted in the national state, may be *de facto* administered through overlapping local authorities or networks. Although a Eurocentric model of territorial space has endured in postcolonial contexts like Senegal, it coexists with these other ways of using, accessing, and conceptualizing the population's relationship to land and space.

In this spirit, narratives about the population that could be affected by the Niafarang Project focus less on direct threats to the "territory" of a particular group, than on broader threats to "an entire population," which need not map onto contiguous or uniform territorial spaces. It was frequently left vague and ambiguous the geography of that "population," and whether and to what degree it would be affected by the project, should be involved in decision-making, and was, supposedly, unified in opposition to the project.

Scholarship on ambiguity has shown that open-endedness, uncertainty, and indeterminacy make possible particular social, financial, and political processes (Ferme, 1999; Miyazaki, 2007; Piot, 1993), including popular participation (Glenzer, Peterson, & Roncoli, 2011). Speaking of land law in particular, Tania Li (2014) argues, "Law is often envisaged as the key mechanism for producing stability in land transactions, but in the global land investment assemblage, law plays a highly ambiguous role" (p. 598). Contrary to the World Bank's emphasis on secure land titles as prerequisites for land markets and investments, she finds that investors focus on countries with

insecure or ambiguous land tenure, including state land that is held in forms of customary tenure (Li, 2014, p. 598). In this case, the ambiguity of tenure and law facilitates investment, by allowing for a variety of often-undemocratic negotiations with state actors or local chiefs. Fixing land ownership through law and titles would serve as a hindrance to capital. Ambiguity is thus productive of unique opportunities, allowing for speculative practices that would be more difficult were laws more clearly defined and enforced.

Ambiguities and Multiplicities in Place-based Politics

Successful (or temporarily successful) struggles against mining projects and environmental injustice are often interpreted through the politics of scale, a process of ongoing social and political construction (Delaney & Leitner, 1997) through which various actors "explain, justify, defend and even try to impose the link between a particular scale or scalar configuration and a political project" (Gonzalez, 2006, p. 838), or "jumping scale" (Haarstad & Fløysand, 2007), defined as the ability "to organize the production and reproduction of daily life and to resist oppression and exploitation at a higher scale" (Smith, 1992, p. 60). In contesting mining projects, jumping scales suggests a politics of space (Kirsch, 2014) that increases leverage for the local community, in some cases effectively blocking projects (Haarstad & Fløysand, 2007) or enabling legal settlements after the fact (Kirsch, 2014). As Katherine Jones states, by jumping scales local groups "discursively re-present their political struggles across scale, and in so doing, they help to recast opposition itself. They show that a 'local' struggle, for example, may also be represented as a global struggle, and when it is done so, the local struggle may strike a chord with many people who will argue on its behalf" (Jones, 1998, p. 26). Scale jumping and the politics of scale work because they amplify local struggles at higher levels, enroll atomized movements into global ones, and discursively frame issues in ways that expand stakeholders (Haarstad & Fløysand, 2007; Kurtz, 2003; Towers,

2000; Urkidi & Walter, 2011).[3] Controversies thereby become legible to state or corporate actors, applying pressure at certain levels where solutions might be enacted.

While similar contestations between expansive scalar narratives (e.g. the region) and more restrictive, divisive territorial narratives arose in the Niafarang Project negotiations, the Committee and residents most frequently drew on place-based narratives that cohered not through a singular spatiality—such as territory, scale, or networks—but through the ambiguities of place and the population's relationship to it. Elsewhere, geographers have encouraged examining how various spatialities are imbricated with each other, and have assessed how each of these is critical to a nuanced understanding of socio-spatial processes. For instance, Helga Leitner, Claire Pavlik, and Eric Sheppard (2002) examine intersections between territory, scale, and networks in the European Union, while others have posited a "territories (T), places (P), scales (S), and networks (N)" or TPSN framework (Jessop, Brenner, & Jones, 2008).[4] However, here I follow arguments that suggest that a nuanced use of "place" can capture these other spatialities (Agnew, 1987; Oslender, 2016). For instance, local senses of place are influenced by global processes, migrations, and movements (Chu, 2010; Faier, 2009; Massey, 1991), and social movements have drawn on territorial claims, place-based organizing, and interconnections between human and nonhuman worlds (Escobar, 2008; Oslender, 2004, 2016). Place is particularly apt in describing spatial narratives about the "population" in the Niafarang Project negotiations because it is a fluid and

[3] In her work on environmental justice organizing, Hilda Kurtz (2003) shows how activists used a variety of "scale frames," defined as "discursive practices that construct meaningful (and actionable) linkages between the scale at which a social problem is experienced and the scale(s) at which it could be politically addressed or resolved" (p. 894). However, these attempts to secure linkages between scales of impact and scales of resolution were also undermined by what Kurtz terms "counter-scale frames," which worked to restrict scalar framings, produce community divisions, and make problems manageable through divide and conquer strategies.

[4] Ulrich Oslender (2016) has critiqued these approaches, arguing that they reify spatialities; in complicating the picture of socio-spatial relations with ever more spatialities, in pursuit of totalizing explanatory potential, they leave some dimensions under-theorized—such as the role of place.

ambiguous construction that may involve a multiplicity of arrangements between humans and their environments.[5] The flexibility of both place and the population allowed the meanings of contestation to proliferate, and so the mining project could be simultaneously constructed as a threat to a local community, to kinship networks binding together the Fogny, and to identities of the Casamance "region."

The Population in Environmental and Mining Law in Senegal

In the Niafarang Project controversy, population is less a clearly delimited entity and more a process, effect, or strategy of organizing around the mine. Its spatial ambiguity thus served as a resource for both mining opponents and proponents. In discussions about the Niafarang venture, activists, villagers, and state officials alike commonly referred to "*la population*" or "*les populations*." These translate into English as both "population"—defined by the Oxford dictionary as "all the inhabitants of a particular place"—and "the people." This emphasis on the population mirrors the language of legal codes, which have increasingly cast populations not just as targets of protection or intervention, but as actors in participatory environmental management and decision-making.

The role of "population" in Senegalese environmental law initially centered on registering the impacts of industrial development. The first Environmental Code, passed in 1983, mentioned population twice. In both cases, its significance lies in how it is affected by environmental impacts—specifically, pollution—from development projects. The population is presented as something that is acted upon (rather than an actor in itself), requiring protection by the legal apparatus of the state.

[5] Oslender (2004, 2016) captures this fluidity through the concept of "aquatic space," generated from his fieldwork in Colombian social movements in estuarine areas along the Pacific coast. While this concept addresses much of what I discuss here, I opt for a more general use of "place," as it is manifested in the case of the Niafarang Project.

The population's safety is itself part of a broader set of concerns for the state: "The atmospheric pollution and odors that inconvenience the population may compromise public health and safety or harm agricultural production, the protection of buildings and monuments, or the character of sites subject to the provisions of the present law and the regulations for its application" (République du Sénégal, 1983, pp. 17–18, Article 48). Inconveniences to the population could thus feed into broader public breakdowns in agriculture, safety, and health of concern to government.

The later 1988 Mining code offers the population some degree of involvement, referring to the "*population*" or "*populations*" seven times. Three uses refer to the population in the plural (in the general sense). Another three refer to "local" or "nearby" populations (*populations riveraines*)—these references all occur in the context of ensuring safety and security for "employees and nearby populations." However, this code stipulates a public inquiry process designed to evaluate these impacts (République du Sénégal, 1988, p. 10, Articles 27 & 28). The remaining reference to the population notes that the public inquiry should include the population "concerned by" mining projects.

By the time a revised Environmental Code was approved in 2001, the "population" as a legal category had undergone a radical transformation in its relationship to environmental protection and sustainable development—at least, on paper. The revised code refers to the population nineteen times (eighteen of which reference human rather than nonhuman species populations). But rather than simply being "affected" by environmental issues, the population now appears as an active agent in the decision-making process.

The "participation of the population" is an important component in the revised Environmental Code, referenced a number of times. Consultation with "*les populations*" is required before obtaining a mining license from the Senegalese government. As mentioned in

Chapter 2, the Environmental Code stipulates that in order for any preliminary conventions or agreements to become mining licenses, companies are required to commission an Environmental and Social Impact Study, to be conducted by one of several approved environmental consulting firms. The resulting study must then be presented during a public forum, in order to receive comments and obtain popular approval for the project. Article L52 states, "The procedure of a public forum is an integral part of the Environmental Impact Study," and Article L53 of the Environmental Code of 2001 states, "The participation of the population [in public forums] responds to the will to democratize the process of decision-making and is guaranteed by the State in the context of decentralization and regionalization" (République du Sénégal, 2001, p. 8). As this statement makes plain, this changing role of the population emerged largely thanks to good governance reforms and pushes for decentralized, participatory resource management that preoccupied developing countries in the 1990s (Batterbury & Fernando, 2006; Ribot, 1999; Ribot, Agrawal, & Larson, 2006).

This growing acknowledgement of civilian stakeholders by the state stands in contrast to the treatment of the population within mining legislation. The revised Mining Code passed in 2003 contains no references to the term "population." Instead, the requirement of the public inquiry under Article 27 is reconfigured to direct applicants for mining licenses to the revised Environmental Code. At the same time that mining became less concerned about impacts on or involvement of the population, the population came to be empowered within the (comparatively weaker) environmental arm of the government.

Yet Senegalese law is ambiguous about the geography of that population. Within the Environmental Code, only three references to the population are meaningfully specified: the neighboring population, the population concerned by a given project, and the local population, or

population locale. No precise definition is provided for who constitutes the population whose consent is desired in the process of project approval, or what is meant by "local," in the one reference where this is included. This generality and ambiguity has allowed for considerable flexibility of interpretation, as it applies equally to very localized projects as well as ones which may span numerous localities and require broader participation. In part, this reflects the geographical and contextual powers of law, in the sense that "legal interpretation, as a discursive practice, appears resolutely closed to external influences, admitting them only under conditions of its own choosing" (Blomely & Bakan, 1992, p. 663). Although crafted at the nation-state scale and reinforced at the international scale, law is assumed to apply equally and evenly across the territories within its jurisdiction, which requires a certain amount of open-endedness and flexibility.[6] And yet, this ambiguity confounds the homology between territory, law, and the population it seeks to govern.

In an interview with a government official specializing in the conduct of Environmental and Social Impact Studies, I posed a simple question about how the population was defined, in relation to the public forum and project approval:

"Who comprises the population?"

"Anyone interested in the project," he responded, as though this should have been obvious. "The promoter is required to announce the meeting, and anyone can come to give his/her opinion" (Interview #23, 24 July 2015). For him, population was non-territorial, and defined instead by participation—those willing to go out of their way to be heard could be considered part of the

[6] This presentation of law is the subject of considerable critique. For instance, Siba Grovogui (1996) argues that the presumed universality of definitions in international law in fact reflects Western hegemony and masks exclusions and violence committed by colonizing nations, by separating genocide from the colonial contexts in which many genocides were committed. This suggests that geography, through obfuscated by presumptions of universality, remains important to the inequality of how law is created, interpreted, and applied.

"population." Yet, as he stated, the population did not have the right to refuse a project or make the final decision, which was the prerogative of the Ministry of the Environment. If a project was rejected by the population, then the government was to commence a process of negotiations, as they did regarding the Niafarang Project (Interview #23, 24 July 2015).

The definitional flexibility afforded by the geographically ambiguous "population"—as not clearly linked to a particular scale, space, or territory[7]—allowed for two contradictory movements to occur around the Niafarang Project. First, it allowed the Committee to frame the "population" within multiply scaled and networked places, producing local, sub-regional, and regional publics opposed to the mine. Although presenting contradictions between and among these different places of the affected population, this strategy built an expansive public that engaged and participated in public forums, producing an excess of interest and involvement in the Niafarang Project. This served to prolong negotiations with state and corporate actors, as well as multiple foreign and national intermediaries working for transparency and conflict resolution. It expanded the political power of the population.

Second, the same ambiguity allowed for more restrictive placing of the population, which the state used to excise excess and redirect attention to the category of "natives" or autochthonous persons. This allowed for a series of agreements to be reached, not with the wider public but with small groups of men in another village who were amenable to the mining project. This group also mobilized historical claims to first-comer status to justify their ability to make decisions on behalf of Niafarang. This restrictive framing also was taken up by some state actors to justify and legitimize the "public" approval process within the law.

[7] One could argue that the population is implicitly territorial, in the sense that the law protects only the population of the nation. But even this, not made plain in the law, allowed the Committee to involve foreigners within the public forums and to draw upon a population that extended beyond the national territory as well.

Placing the Population

The opposition to the mine demonstrates how the population has been the product of social construction and ongoing contestations between narratives of place and belonging. Organizing and awareness-raising initially extended to the villages most impacted by the first phase of the project: Niafarang, Abéné, and Kabadio. Residents of these villages established the Committee, attended meetings, and pressured local officials and state agents for more information about the Niafarang Project. Most of the Committee's active leadership were men, and most meeting attendees were overwhelmingly men—with the notable exception of Edith, an Ivoirian woman, and a young French woman who worked with her on agroforestry projects.

The Committee worked to generate a seemingly coherent population within cosmopolitan villages, the Fogny cultural sub-region, and the Casamance region. The effects of these place-based politics did manifest in jurisdictional or administrative places—through, for example, marches and demonstrations held in the regional capital of Ziguinchor—but discussions of the population rarely *adopted* the language of actually-existing administrative spaces. The place narratives they pursued allowed for more expansive meanings and interpretations of the mining project, enrolling various actors in opposing the mines, for various and contradictory objectives.

Cosmopolitan Villages: Transcending Differences in Economic Class, Ethnicity, Autochthony

Expanding resistance against the mine initially required considerable effort, as the mine was presumed to affect only a small number of village hotel owners on the dune. One of these owners, Souley, was an original founder of the Committee, and had moved to Niafarang from Kolda in the 1980s and obtained his land from the *alikaali* of Kabadio. At the time, there was no road, and the village was remote and difficult to access. He was only one of two landowners on the dune—the other was a Fula herder, who took his cattle to graze in nearby areas.

By the late 2000s, Niafarang had received a number of European tourists. Often Norwegian, French, and Dutch (and, in the off-season, Spanish), they arrived by way of the village of Abéné, where they congregated for a cultural and music festival held in late December, participated in drum circles, and bargained with Gambians who had come down to sell various wood carvings, clothing, and paintings. As the tourist economy of Abéné became saturated, those seeking tranquility found Niafarang. Some of these tourists never left—including one elderly Frenchman who constructed a hut and fruit orchard in the village, married a Jola wife, and refused to return to France even when he had a serious affliction that could not be locally treated. Others decided to build seasonal homes, returning during the dry season from November to May. Some were elderly men and women who took younger Senegalese romantic partners, and many constructed small village hotels and campsites on the dune, mostly renting rooms to friends and family who came to visit, or to other tourists. Other residents of the dune came from elsewhere in Casamance or from northern Senegal, and some belonged to Wolof, Mandinka, or Jola-Kassa ethnic groups, rather than the Jola-Karon ethnicity that dominated in the village of Niafarang itself.

Souley and the group of multi-ethnic and often non-Senegalese village hotel owners on the dune employed workers from the villages of Niafarang and Kabadio. For instance, Souley had employed a woman from Kabadio, and later married her; he also employed Djely, a young man in his early 20s who came from Souley's region and stayed with relatives in Kabadio when not working. Given the economic class and ethnic differences between the landowners on the dune and those in the villages, Souley recounted the difficulties he had in gaining broader support for his objections to the mining project:

> We started to do awareness-raising campaigns in the villages in 2007. And at the time, [it was] my friends and me. It wasn't the villages because at the start the villages were open to it. Those of us who were residents here [on the dune] used the workers at 1000 CFA per day, but [the engineers] were paying them 2000 or 3000 fCFA. So there was a financial

> incentive. When we told them that it wasn't good for the area, they said, 'No, you are just selfish. You pay us 1000 fCFA, you don't want us to work here. For 2000 or 3000 fCFA, we're on board.' … We had to wait until around 2012 for the population to become aware that if the zircon is extracted, that's going speed up sea-level rise. Thus they saw that it's true, if you take tons and tons [of zircon] from the dune, the water is going to come, so it's not just the residents of the site who are concerned, the project also concerns *us*. (Interview #4, 26 August 2014)

According to this account of organizing against the mine, the initial response of many community members was informed by self-interest (financial incentives, in the form of payment for services rendered to the company in the phase of exploration), and a distrust of those village hotel owners opposing the mine, who were also presumed to be acting in self-interest.

Unfair payment of employees is a common theme in Niafarang. Many village hotels along the dune are owned by European expats and staffed during the off-season by local guards who, though well-paid in theory, often waited months to be paid by expat bosses who spent the off-season in Europe. By contrast, employees of Senegalese village hotel owners often complained of unlivable wages. Djely, for example, once complained that he made so little working for Souley that he could not afford to purchase phone credit to call home, much less to pay for the trip back to his family. Thus, the initial response to the mining venture pitted village hotel owners against their employees and other villagers who sought better wages for their work.

These conflicts were tenuously transcended, however, as understanding increased about what the Niafarang Project was and what impact it could have on areas beyond the dune. In particular, threats to rice production led Niafarang villagers, previously skeptical of village hotel owners' motives, to join with them in challenging the mine. This brought men and women, Jola and Mandinka, autochthonous people and migrants, into the same fight and the same "population"—albeit for different reasons and motivations.

The Committee also incorporated foreigners into this more expansive notion of the population against the mine. A young member of the Committee explained how opposition to the mine consciously drew on connections with expats and on international information networks that provided them with insights about previous fights against multinational companies:

> [We followed] in the image of other fights against multinationals, for example in Brazil. In the documentation [I gave you], you see our strategies, and you see our friends—French people and others—who send us pointers, so that we can see that they fight like this, others fight like that. … That's what allowed us to get a car and pull together some money for fuel to go meet the people, organize meetings. (Interview #4, 26 August 2014)

This informant reiterates the work that went into constructing opposition to the mine by the "entire population," expanded to include expats—both temporary visitors in the region as well as longtime residents. Some expats were occasionally in attendance at public forums, and some contributed other forms of support to the cause. For instance, one of the campaigners involved in awareness-raising campaigns was a Catalonian woman who later married a member of the Committee. I detail later how this involvement of foreigners was exploited by proponents of the project to discredit the opposition and to suggest that the "autochthonous" population was being manipulated and kept in poverty by Europeans eco-tourists.

For the Committee, encouraging attendance at public forums and convening large publics to reject the project was critical to maintaining the opposition. In February 2016, I returned from a short trip to Guinea-Bissau with José, a man who had come to visit Souley the month prior. José was interested in building connections with other movements in the region that had been fighting mining projects. I recounted to Souley that José's group had boycotted public meetings, using this as a strategy to contest the mine based on their exclusion from the process. Souley laughed. "Here, that never would have worked!" he said, explaining that the administration would simply have found a few people to say that they were for the project, using that as the basis for claiming that

the "population" was for the project (fieldnotes, 11 February 2016). Indeed, as I show later, this is what some of the mine's proponents tried. Instead, the Committee had courted an expansive "population," encouraging them to show up to the public forums and raise objections to the mining project. For the Committee, it did not matter where attendees were from or what their individual stake in the project was. What mattered was presenting a "population" united in opposition to the mining venture.

Familial Ties Across the Fogny

As described by organizers with the Committee, outreach was extended to the 44 villages of the "zone" in which the mining project was located (Interview #4, 26 August 2014). The spatially vague nomenclature of "*la zone*" ("area, zone") refers to many things, including the militarization of space amid the regional conflict. In this context the 44 villages comprising *la zone* referred to what was until 2014 the Rural Community (CR) of Diouloulou, subsequently becoming the two Districts (*Communes*) of Kataba 1 and Kafountine. Within these administrative areas, village residents elect representative local government officials. Here, the organizing of the Committee did rely on spatial definitions; since elected officials represented their constituencies, it was important that they be able to respond to these demands. As one deputy mayor in Kafountine stated, "The subprefect and the state asked for my position. I was elected by the people, so I'm behind the population in opposing the mine" (Interview #25, 16 June 2015).

As another member of the Committee described, the resistance of the population was also supported by the President of the Rural Community (PCR). He recounted:

> The company kept sending people who were saying, 'Look, we'll just go talk to the local authorities and tell them to look at the budget that we'll put at their disposition for outreach,' but we had the good sense to elect to our Rural Community a PCR who is very honest and who told them that he couldn't get involved because the population had openly declared that they didn't want the project. So he couldn't see how he could make them reverse that decision, and told them they'd be better off keeping their money. … The prefect convened a

meeting. At that meeting as well, there were some local authorities present, and some of the officials [from the Ministry of Mines and Ministry of the Environment]. Some people argued that it was a minority of people who were against the project, and so forth. But that day, the PCR told the prefect again, very clearly, that before making whatever decisions he made, he should refer back to the population and examine the degree of involvement of the people. … The people are very involved. (Interview #6, 26 August 2014)

The member of the Committee noted that this PCR was "honest" and represented accurately (in his view) the will of the majority of the population. A territorial definition of the population was helpful in representing the population in this case, as it allowed for pressures to be placed on elected local officials at the level of what was then the CR. Yet the above quotation suggests that this relationship seemed exceptional, implying that local authorities were often easily "bought"—hence the importance of having the "good sense" to elect someone honest.

Nevertheless, mayors, deputy mayors, and other officials—some themselves involved in the Committee—cited concerns about accurately representing the interests of the population they were elected to serve. The mayor of one of the districts commented that the project had to look to the population for its "mandate," and that the state's role was to sign off once popular approval was acquired (Interview #44, 2 March 2016).

While having "honest" and accountable elected local officials was important and fortunate, discussions of the role of local elected government paled in comparison to other ways of talking about *la zone*, which occurred most frequently through the spatially overlapping[8] but culturally distinctive place of the Fogny. The Fogny refers to the northern group of Fogny-speaking Kujamaat (Jola). The Fogny-Diabangcounda is the area including Niafarang and extending eastward and

[8] The cultural sub-regions of the Fogny-Diabangcounda and the Fogny-Narang spatially overlap with the administrative districts of Kataba 1 and Kafountine. However, they do so incongruously—for instance, Niafarang is administratively in Kataba 1 but culturally in the Fogny-Diabangcounda, Macouda is in Kataba 1 but in the Fogny-Narang, and Abéné is in the district of Kafountine but culturally in the Fogny-Diabangcounda.

southward, where Muslim and Mandinka Diabang ruling families settled, whereas the Fogny-Narang includes the villages northeast of Niafarang, near the Gambian border.

In trying to ascertain the extent of knowledge about and opposition to the mining project across the Fogny, my research assistant and I interviewed an *alikaali* (village chief) in a Mandinka village along the National Highway, several kilometers from the proposed mine site. A Diabang, he belonged to the established Mandinka ruling family throughout the district. Though Mandinka, his mother was Jola; he recounted this to demonstrate the peaceful intermixing of Jolas and Mandinkas in his village.

"Do you think the effects of the mine will be limited to Niafarang?" I asked him.

"*Niafarang Fogny moo ko moom*" (Niafarang belongs to the Fogny), he told me in Wolof. He continued, "The village chief of Niafarang comes from Abéné. So, we're all connected. There are meetings that have been held, and I've attended but have taken a neutral position, because I don't have enough information. The project has created disagreements, and I prefer to let them discuss it amongst themselves. But it's certain that whatever happens will affect the entire Fogny-Diabangcounda, and will impact all the villages" (Interview #40, 26 January 2016).

Another *alikaali*, also a Diabang, stated, "We're involved in it too. At the start, it only concerned Kabadio, Niafarang, and Abéné, but if it had been only those three villages against the project, it would have started a long time ago" (Interview #32, 7 August 2015). This village chief had very little understanding of the project or its environmental effects; nevertheless, he saw himself and his village as implicated in opposing the project, because of interrelationships of solidarity.

The Committee's campaigns included a march attended by thousands of individuals from throughout the Fogny, a benefit concert featuring the Senegalese hip hop musician Dread Vivas,

and *sensibilisation* (awareness-raising) meetings whereby a team of Committee members drove to numerous villages in the Fogny to explain the mining venture and its consequences. The Committee wanted other villages to understand the extensive environmental destruction that they believed was possible, including inundation of the region from the coast all the way to Bignona, 65 kilometers inland, and the impacts on fluvial dynamics as far east as Sédhiou. In their view, the ecologically "affected" population could extend far beyond the limits of the mine site.

Yet not all groups shared the same understandings or motivations in being part of a "population" around the mining project. Group interviews conducted in villages distant from the proposed mine site suggested that articulations of its impact on the population of the Fogny focused on three narratives: indirect or secondary environmental effects, implication through familial networks, and identification with ethnic and regional identities based around agriculture, localized migration, and autochthony, to which the mine was perceived as a threat. However, our interviews also found that the view of the Fogny as united against the mine was not as widespread as was outwardly presented by the Committee. In the remainder of this section, group interviews with young men[9] from three villages in the Fogny illustrate differences in identifying (or not identifying) as part of the affected population.

Young men from the village of Macouda stated that there had been no awareness-raising about the mining project in their village. They noted that they were far from the sea and would experience few impacts, although they noted that sound pollution could affect them. A fourteen-year-old boy from Niafarang, who happened to be visiting, joined the meeting and explained the

[9] Group interviews were conducted with both women and men, and with different age groups, in multiple villages in the district. Those with women generally yielded less awareness about and involvement in the mining project. This in itself is interesting, as it complicates the notion of a unified "population" against the mine; however, I have focused on groups of young men to show greater variation in how certain people conceived of themselves as part of a population (or not).

project to them. He stated that the first time he remembered hearing about the project was in 2004, when the company came; at that time the population of Niafarang was against it, because if mining commenced, it would speed up sea level rise and ravage local villages. After this explanation, one man stated, "If there aren't damages to the villages, and the state would benefit, maybe other localities would benefit. For example, the national highway isn't good, it could be paved" (Group Interview # 5, 12 September 2015).

The men then asked me to explain the project in more detail so that they could discuss and debate it. I did so, focusing on specific facts about the mining proposal rather than judgments. The vice president of the youth soccer club considered it thoughtfully. "You said it would begin at the small river?" he asked. Using a stick, he drew a line in the dirt, for the river, and a rectangle extending beneath it. "If it's six kilometers," he said, "then Abéné and even Kafountine will be impacted." While this group displayed a keen interest in working through the possible impacts of the mine, they did not conceive of themselves as part of a "population" affected by it.

By contrast, young men from the village of Mahamouda Jola, also far from the mine site and the sea, saw themselves as implicated in the project's impacts—but mostly due to familial connections. Explaining their understanding of the environmental impacts of the project, they stated that the dune would be lower, and the rice fields and homes in Niafarang would be inundated (Group Interview #6, 12 September 2015). Although one man noted that "pollution [from transporting materials to and from the mine] will affect the entire zone" (Group Interview #6, 12 September 2015), they generally felt that ecological effects would be confined to Niafarang. Their objections were primarily rooted in a sense of familial networks at the level of the "zone" and the Fogny. They felt that the project would impact them because "Our relatives are there" (Group Interview #6, 12 September 2015). Articulating the project as part of their regional cultural

identities, they stressed that they objected to the mine because: "We are agriculturalists, we don't know anything about mining" (Group Interview # 6, 12 September 2015) and "Rice is our riches in Casamance" (Group Interview #6, 12 September 2015). In contrast to the above example, their language—focusing on "we" and "our"—demonstrated a conception of themselves as implicated and affected, through potential air pollution and through impacts on relatives and identity groups.

Finally, young men from the village of Birassou echoed similar points about familial connections and agricultural identities.[10] In terms of environmental effects, they cited the poisoning of fish, negative effects on eco-tourism, possible effects from waste, air pollution that could impact animals and trees, and impacts on sea level rise and coastal erosion. "We are agriculturalists, we live off of our fruit orchards and crops," said an older man in a green *bubu*, in opposition to the project. "It would be better for them to finance reforestation and enclosures, that will create jobs that will last longer than the two [*sic*] years of this project." This man possessed more knowledge about the project than others in the group. "This the same product that they mine in The Gambia, right?" he asked. "I happened to be in Kartong when they were mining it, so I saw what it did there. It didn't continue, because it wasn't good for the population, and it won't be good for us here either" (Group Interview # 2, 9 September 2015). Another man interjected: "The rich products are for *you*, the waste is for us Africans." At this, the others laughed.

After some impassioned discussion, I asked why they were interested in the mine debate, when their village was so far from the mine site. One man responded, "We're all brothers, so what happens to others also affects me. That's solidarity." Another added, "The whole region is ours. I can take a dip at the beach, I eat fish coming from there. The *bolong* enters into the Casamance

[10] However, some of them supported the project, with one man stating brusquely that he agreed with the project and had nothing further to add.

River, and if this affects the river, we'll all be destroyed, we'll be fucked. All the [Karon] Islands are in the river as well."

Building on this last comment, another man explained the familial and migratory dynamics that bound their village to Niafarang's struggle: "All of us are emigrants from the Islands, who left there to come here. We have relatives in every village. We, the natives [*autochtones*], are all implicated in this" (Group Interview #2, 9 September 2015). In this village, then, the young men for the most part identified with Niafarang and against the mining project, citing kinship relations and shared experiences of migration from the Karon Islands and into the Fogny. However, they also emphasized their "autochthony."[11]

Here, the representation of the population of the Fogny as demonstrating a shared origin and an (implied) shared ethnic identity—as Jola—was at odds with the actual populations of Niafarang and Kabadio. With its part-time foreign residents and migrants from elsewhere in Casamance, Senegal, and Guinea-Bissau, Niafarang is a far cry from a village of autochthonous peoples. Furthermore, even if the Kalorn were "native" to the Karon Islands, they are not necessarily "native" to the Fogny, which is often claimed as the territory of the Kujamaat (a group that is related in some ways to the Kalorn). Combating the mining project, these diverse groups of residents collaborated with the dominantly Mandinka and Muslim village of Kabadio, and with residents of Abéné, itself an amalgam of tourists, Mandinka ruling families, Gambians, and itinerant fishermen from across Senegal, constructing a broadly conceived "population" united against the mine through shared interests in protecting the rice fields adjacent to the mine site and guarding against further coastal erosion and groundwater salinization. This population was not

[11] Claims to autochthony in the Fogny are highly contested, with both Mandinka *jihads* descending from The Gambia during the eighteenth and nineteenth centuries and various Jola kin groups having conquered and assimilated the Bainouk traders who previously inhabited the area.

exclusively agricultural in terms of their livelihoods; some members of the Committee from Niafarang and Kabadio engaged in little to no agricultural activity and were interested in eco-tourism development. Yet the understanding of the mining project as threatening Casamance's agricultural roots, its autochthonous ethnic groups, and its estuarine environment of islands, rivers, and streams, convinced some residents from across the Fogny to oppose the mine in solidarity with Niafarang.

These individuals were able to organize collective environmental decision-making based on interest—rather than a clearly-defined geography—thanks to the open-ended definitions of "population" in the text of the Environmental Code. Encouraged by the Committee, some residents of the Fogny—especially men—came to Kabadio to participate in the public forums and in marches and demonstrations, drawing upon an understanding of the local population as not spatially confined to areas directly touched by the mine site, and not necessarily represented through particular administrative districts, but as formed through the networks of migration, kinship, and solidarity that are understood to bind the Fogny together.

"All of Casamance": Regional Narratives of Marginalization and Exploitation

Many residents active in the opposition to the mining venture also extended the notion of the population to include "all of Casamance." Casamance, as I noted in Chapter 1, has ceased to exist since administrative reorganization sought to break up the separatist movement by creating two separate regions, renamed Ziguinchor and Kolda (with Sédhiou added as a third region following additional administrative divisions in 2008). Nevertheless, Casamance remains a culturally and historically powerful idea: a region that, for some, "naturally" stretches as far as eastern Senegal, in spite of multiple religious and ethnic divisions. I show in this section how the Niafarang Project was discursively scaled up to this regional population, and how it came to be entangled with the

Movement of Democratic Forces of Casamance (MFDC) and the movement's narratives of regional marginalization and exploitation by northern Senegal.

The mining project was refracted through the historical territorial claims that have informed the Casamance conflict since the 1980s. One day as I walked with Souley to the National Highway in Bandjikaky, we encountered an elderly village chief who was bicycling to his orange grove. The two men began discussing the mining venture. "We're all against it," the chief said adamantly. "What happened to autonomy for Casamance? We were never supposed to be the same country," he insisted. "Look at the French colonists [*les colons*]! They had a separate administrator."

This village chief was a former military officer, educated in Dakar. In a separate interview, he explained the long history, as he understood it, of Casamance's exploitation—first by the French, and then by the Northerners:

> First of all, we're on two sides. Senegal, the north, is managed differently than we are. It's state policy. The French colonizers of the AOF, when they came to Gorée Island, and to Saint-Louis and Thiès, they found the *évolués* [literally, "evolved" or "developed," and referred to Europeanized native elites], and they gave them French citizenship. They brought money, the *franc*. They gave it to the Northerners, and they left us in darkness. To earn money, we had to work the land. You had to pay taxes, and to do that, you had to make money. The Northerners, their land was poor. They came to Casamance, where there were agriculturalists, workers, and they bought fruits and took them to the north. It's now that system that governs relations between the two sides. There are the producers, and there are the buyers. From the eighteenth century until now, they prefer to keep the factories in Dakar and Thiès and keep us as agriculturalists and resource users. All our goods come from there. It will be the same with the zircon. They'll take it to Dakar, and we'll get nothing from it. They'll continue treating us like objects. You see what that does? It doesn't work. *Waxal dëgg rekk*, just tell the truth, it doesn't work! Things are extracted here, and all the factories are up there. (Interview #28, 6 July 2015).

In this recounting, the chief drew on particular historical understandings of regional populations—the *évolués*, in the north, and the agriculturalists in the south—and the role of taxation and representation in mediating between different populations and the (colonial) state.[12]

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[12] Throughout the AOF, the *évolués* had different rights and privileges (including access to education), than did other populations. Senegal was also unique, in that original residents of what were termed the Four Communes—

The historical claims presented here about the region and its population allowed for an articulation of the mining controversy at a scale beyond simply the effects on a particular community or district in the present, as it reinforced a narrative of exploitation of the Casamance region and its peoples by *Nordistes* from Senegal. This has been analyzed as the result of various exogenous conditions, including structural adjustment policies in the 1980s, which forced educated and skilled individuals to return to their villages, in a reversal of the "rural exodus" (Marut, 2005). Jean-Claude Marut suggests that these effects combined with the arrival of outsiders and the state's use of resources, generating a narrative in which the "natives" had been dispossessed:

> Their return coincides with the aggravation of the local conditions, due to the drought that also hit the "green Casamance," and due to the disengagement of the state from agriculture and large development projects. This was also when the natives [*autochtones*] found themselves deprived of some of their resources, in the interior of Casamance or outside it, when large numbers of outsiders to the region arrived, attracted by its reputation of natural wealth. Corresponding to the needs of the Senegalese state, sectors like fisheries or tourism effectively offered them great development potential. (Marut, 2005, p. 318, translation mine)

Combined, these pressures generated a sense of marginalization, then projected backward into the past as representing a legacy of uneven regional development that informs a Casamançais identity in the present.

The Niafarang Project thus was interpreted by many as yet another assault on Casamance and its resources. As one MFDC representative stated, "We are at war. They [the Northerners] know with certainty that Casamance has a lot of potential, so they have to take advantage of it. It's a pillage, a theft. That's why they prefer to save their zircon up north and come here to exploit Casamance" (Interview #7, 27 August 2014).

Dakar, Rufisque, Gorée Island, and Saint-Louis—were entitled to representation by deputies in the French National Assembly (Diouf, 2001, 2013).

For the MFDC, the mining venture was not an isolated incident in a remote village, but posed an affront to Casamance and all Casamançais. As expressed by the MFDC representative, "The people of Casamance [*Casamançais*] are in solidarity. Casamance belongs to the people of Casamance. The mining won't stop at Niafarang, and it's not only Niafarang that will suffer the ecological consequences that will be unleashed. All of Casamance will suffer. In Casamance, in the Jola language there's a word, *ejawara*, and it means someone who accompanies you down your path. That's what we're doing" (Interview #7, 27 August 2014).

Three key ideas emerge from this quotation: the imagined extent of the mine, the construction of a "people," and the idea of regional solidarity. First, he drew upon the idea that the mining project would continue past Stage 1 into the rest of Casamance, beyond Niafarang. The ecological consequences of such a project, he suggested, would be disastrous not only for Niafarang, but for the region as a whole. His brother, also an MFDC supporter, echoed this idea by referencing the original exploration license: "We were shocked by a mine of that extent of 700 kilometers [referring to the area of the initial exploration license], in a country like Casamance that is at war. … The need of the population is first to regain peace. Peace first. As for economic needs, I think that if it's not profitable for the population, it's useless. This mine is useless" (Interview #7, 27 August 2014).

Second, the MFDC representative referred frequently to the "people" of Casamance, as a unified entity with particular rights to land and autonomy. Third, and finally, he highlighted how this "people" is constructed and held together, through solidarity, echoing the language used in some of the group interviews. In selecting the Jola word *ejawara* to describe this, he moreover identified this regional solidarity with the dominant Jola ethnic group.

An important, if unintended, consequence of the Niafarang Project thus was the opportunity it offered to re-unify a fragmented movement. In the early 2000s, divide and conquer strategies led to the fracturing of the MFDC into five separate factions.[13] Some were willing to abandon hardline demands for regional independence and engage in peace negotiations with the Senegalese government; others, such as Salif Sadio's contingent, refused to soften their demands and retreated into hideouts near or across the borders with The Gambia and Guinea-Bissau. The mining venture has apparently granted an opportunity to overcome these seemingly intractable divisions. As Luc Descroix and Jean-Claude Marut note:

> Divided and weakened after more than thirty years of fruitless armed rebellion, the separatist Movement of Democratic Forces of Casamance (MFDC) is at an impasse. The zircon venture offers the different factions an opportunity to reunite. … All the factions—civilian and military, radical and moderate—are making their opposition to the venture known, considering any commencement of work on the mine as a *casus belli*. … [T]he mining venture has become a lightning rod in the Casamance conflict. (Descroix & Marut, 2015, p. 16, translation mine).

This "lightning rod" thus speaks to the power of such controversies to bring into being a reinvigorated MFDC, ready to articulate this as part of broader exploitative policies toward the "entire" Casamance and its population.

The MFDC views itself as representing all of Casamance, drawing on a regional imaginary that understands Casamance as "natural" region stretching as far as Kolda. Yet it is only certain ethnic, ecological, and political specificities in the present-day Ziguinchor region that are generalized when "Casamance" is naturalized and reified as a region.

However, extensive territorial and historical imaginaries of the "region" remained politically significant, becoming a base onto which the mining venture was mapped. Villagers who abhorred

[13] As of 2015, these five factions were led by César Atoute Badiate, Ansoumana Lamarana Sambou, Ibrahima Compass Diatta, Paul Alikassin Diatta, and Salif Sadio (Interview #36, 1 November 2015).

the MFDC and their politics subscribed to this expansive notion of regional identity and described the mine as a Casamance-wide issue, notwithstanding the incongruities of scale this posed. Even the most expansive view of the Niafarang Project—as mining the entirety of the exploration license, which is unlikely even if additional concessions were to be granted—would only directly involve the estuarine areas of the Ziguinchor region. Taking the most pessimistic view of the mine's indirect environmental impacts on groundwater and river dynamics, which some people suggested could reach as far inland as Sédhiou, this would still not map onto the "entire Casamance" as it is imagined and claimed. Casamance may no longer exist administratively, but it is significant that people do not discuss the project as "Ziguinchor-wide"; they do not map its impact onto the actually existing administrative region, but onto the regional, historical, cultural imaginary of Casamance.

The connection of the Niafarang Project to broader regional grievances has served in popular parlance, as well as the press, to suggest that the entire population of Casamance is opposed to or concerned by the mine—which has its own ramifications, in terms of the state's interest in negotiating rather than imposing the project, in a region that has experienced thirty years of conflict. As the online Senegalese news portal *AuSenegal.com* reported in 2014, "the Carnegie-Astron company is coming up against a categorical opposition by the inhabitants of Niafarang, the surrounding villages, and all of the Casamance" ("La Casamance refuse le projet zircon de Niafourang," 2014). And as a *Radio France International* headline also suggested in 2014, framing the issue as Casamance-wide, "In Casamance, zircon mining doesn't thrill the population" (Emballo, 2014).

The creation of populations in the village, administrative and cultural sub-regions, and the Casamance "region", depended on discursive and material work through which key actors in the

Committee and the MFDC separately utilized the mining venture proposed in Niafarang and its prospective cartography, represented by the exploration license along the entire coastline, to cast the Niafarang Project as a microcosm of the issues ostensibly faced by the Casamance as a whole. Tapping into regional narratives of the population produced a whole that was representationally greater than the sum of its parts.

The Committee consciously cultivated the MFDC's interest in the Niafarang Project through some members' organizing and communications strategies. As one member of the Committee stated, "I should tell you about our collaborators and our friends. They include foreigners, and they include the MFDC, who give us some support. The zircon venture is a situation to be put on the negotiating table, and is no longer up for discussion" (Interview #4, 26 August 2014). A number of members of the Committee were in close communication with various branches of MFDC about the mining controversy. Some of these men were Mandinka—one of whom noted that his father had been active in the MFDC when it was still a multi-ethnic political party.

While the objectives and narratives of the Committee aligned in some ways with the MFDC's messaging, the scaling of the population to Casamance (and to the MFDC's particular way of framing Casamance) created serious tensions within the Committee, and with other scalings of the population. Many founding members of the Committee were Mandinka from the rather conservative village of Kabadio, who were not supportive of the Jola-dominated MFDC. At one meeting of the Committee, members engaged in debate about whether to attend an MFDC meeting to which they had been invited to speak about the zircon controversy. Talla, the President of the Committee, was infuriated that the MFDC representative had delivered the invitation letter to him at his place of work; he found this intimidatory and inappropriate. Some members thought that attending the MFDC meeting would allow them to spread awareness of the current status of the

project, or, at least to learn about the MFDC's plans. Talla and others vehemently rejected this proposition, citing concerns that they would be assumed to be siding with the MFDC and that this would jeopardize their local organizing work.

To summarize, through the organizing strategies of the Committee, appeals to the MFDC's existing grievances about the pillaging and marginalization of Casamance, and the sensational exigencies of news reporting, the population imagined to be concerned by the mine was expanded from the landowners on the dune itself, to the villages of Niafarang, Abene, and Kabadio, to the rest of the Fogny, and to "all the Casamance". By articulating the controversy in terms readily intelligible to the MFDC and Casamançais dissatisfaction with its relation to the rest of Senegal, the Committee has effectively portrayed Niafarang as a microcosm of the Casamance region as a whole. Yet by no stretch of the imagination is there a coherent "Casamançais population" opposed to the mine; indeed, many people outside of the district were unaware of the controversy, or were only distantly aware—having heard about it through radio reports broadcasted by stations in Kafountine and Ziguinchor. Many of these radio reports were issued by Souley, who frequently called in during programs to air his complaints about zircon mining, how the state had invested nothing in local development, and how everything they had in the villages was financed by foreigners and tourists. The "unity" of the population at this scale was thus constructed through ways of talking and through the labor of organizing by the Committee, with very real impacts on the relationship between Niafarang, the MFDC, and the state.

The construction of a Casamance-wide population opposed to the Niafarang Project bolstered a broader understanding of and opposition to the mine. But it was also highly contradictory in a number of ways. First, actors drew on problematic associations between Jola ethnic identity and "all the Casamance"—one that is particularly inaccurate in Niafarang and the

Fogny. The narratives of Casamançais unity against the mine also presented a tension between the *ethnic* definition of the region as predominantly Jola, and the *spatial* definition of the region as extending beyond the administrative Ziguinchor Region. Second, tenuous ties between certain members of the Committee and the MFDC about the mine threatened to undermine the Committee's commitment to non-violence and its broader appeal.

Counter-Placing the Population

In response to the difficulty of securing popular acceptance amid the unruliness of multiple constructed populations, sited within varied places (in often contradictory and incomplete ways), regional state actors and Idrissa Diop, the environmental consultant *cum* Astron representative, sought to cultivate a smaller, more restricted "population" that would agree to the mine. This culminated in a Memorandum of Understanding (MoU) or *protocole d'accord* signed between Astron and certain members of the village of Kabadio.

Ibou, a well-educated member of one of the leading families in Kabadio, was central to the process that led up to the memorandum. Although he lived and worked in Ziguinchor, he remained involved in village affairs. Like others in the village, Ibou had previously been resolutely opposed to the mine, but, by his own account, he began his own analysis of the project in 2011 (Interview #29, 11 July 2015). In April 2015, after Easter Sunday, he and a few others met with Idrissa Diop to "open a door" for greater dialogue (Interview #29, 11 July 2015). Following a larger meeting with state agents, elected officials, and the wider public held in early May, Ibou convened another meeting on May 30, 2015. State agents—including DEEC representatives, PSE representatives, and the district administrator, Mr. Thiaw—came to Kabadio. Idrissa Diop also reportedly attended, acting as the Astron representative. Those opposed to the project had wanted to take into consideration all the concerns—including salinity of rice fields, soil degradation, and deforestation

of the dune—and to "measure the capacity of the state and the corporation" to address these issues (Interview #39, 25 January 2016). This meeting resulted in a list of nine points of concern, which Mr. Thiaw wrote up for the others in Kabadio to discuss further. Mr. Thiaw asked them to propose solutions for each of the nine points.

Another meeting was then held in Kabadio. Souley, the village hotel owner in Niafarang, heard about this meeting when it was already underway. He and a group of Niafarang residents and Committee members rushed to Kabadio, attempting to join the meeting, but were turned away by the *ad hoc* group some village residents referred to as the "yes committee" (*comité qui dit oui*) or the "yes side" (*camp qui dit oui*) (Interview #39, 25 January 2016). The reason given was reputedly that the negotiations "concerned only Kabadio."[14]

At this meeting, Ibou's group and a group of male elders of Kabadio raised a set of demands and proposed solutions, including evaluating the land and rice fields, resolving water demand problems, addressing the "debauchery" that often results from mining, and bringing electricity and cellular network service to the area (Interview #39, 25 January 2016). The attendees signed the document, along with the chief's signature. Mr. Thiaw was supposed to take care of managing the document, but for some reason, the document was instead sent directly to the regional administrator in Bignona.

Through continued conversations among state agents, Kabadio elders, and project representatives, Diop and the South African financier of the project proposed "ambiguous commitments," according to Mohamadou (Interview #39, 25 January 2016). Kabadio residents demanded "concrete commitments"—most importantly, that they commit to "stop the advance of

[14] Ibou also legitimized the structure of this meeting with recourse to "Mandinka tradition": "In the Mandinka tradition, it's the elders who decide. They discuss the issue before the meeting, and then during the meeting itself, it's only the village spokesperson who speaks" (Interview #29, 11 July 2015).

the sea." This proposition was rejected. According to Mohamadou, the majority of attendees were opposed to the watered down memorandum and commitments offered by the company. With only five people in support of what the company offered (Interview #39, 25 January 2016), the larger group refused to use this memorandum as the basis of a MoU. Amid the arguing and controversy, blows were reportedly exchanged, news of which quickly made its way to Niafarang. While Mohamadou downplayed the conflict, he did acknowledge that there was a "*tiraillement*" (friction, tension).

In the meantime, Astron sent back the document for the chief's signature. A signed copy, bearing the *alikaali*'s stamp, reportedly appeared on the desk of the regional administrator. Yet the *alikaali* had no knowledge of this, and it soon came out that his stamp had been stolen. This document became referred to in the villages as the "forged memorandum" (*memorandum falsifié*). The *alikaali* convened a meeting to have this memorandum read aloud among the village leadership, but the "yes side" refused (Interview #39, 25 January 2016). At this, the *alikaali* declared that he had not signed the document and that he was opposed to the project, and he commissioned a write-up clarifying his position to be sent to the regional administrator.

In late November, the regional administrator convened a meeting with Mohamadou, Ibou, and others to discuss the write-up and the memorandum. According to Mohamadou, the meeting was derailed when the "yes side" demanded to know who had authored the write-up. The regional administrator responded that this should wait until the end of the meeting, and that the attendees should instead take the concerns into consideration, but someone grabbed the document and saw the stamp of Talla, the President of the Youth Association, who doubled as the President of the Committee (Interview #39, 25 January 2016). This caused a new round of debate and argument, in which Ibou's group accused Mohamadou and other Committee members of controlling the

alikaali. The regional administrator released the document to the men, for them to discuss and provide a final commentary. Mohamadou was concerned, however, because the MoU, based on the document sent by Astron, represented the "irreversible acceptance by the population."

He went on to complain about the propositions offered by the corporation, including the digging of five wells on the dune, contributing to the construction of mine access roads and other paved roads, and contributing to the construction of a classroom. "It's in their own interests," he said, "and they refused to invest in stopping the advance of the sea or the salinization of rice fields. They offered only 'contributions,' not financing. The classroom is for one hundred children, but have you ever seen here a hundred kids in a classroom?" (Interview #39, 25 January 2016). Mohamadou reassured other village residents and members of the Committee, however, that "the problem is resolved", that Kabadio and its leadership were opposed to the MoU, and that it had been quashed (fieldnotes, 29 February 2016). "The issue is between Kabadio and Kabadio," he insisted (fieldnotes, 29 February 2016).

Although the memorandum document was deemed confidential, and was not shared with me, it would appear that a finalized agreement was indeed signed. A DEEC official in Ziguinchor did open a file on his computer that contained the notes from the November meeting in Kabadio, reading aloud some of the demands. These included: that Astron pave the road to Niafarang; that the buildings constructed on the mine site be given to local residents after the completion of the project; that the company commit 250 million fCFA for the compensation of Project Affected People who lose rice fields or homes; and that recruitment and hiring privilege local employment. The elders also requested that Astron work through their association, the Fogny-Diabang; in exchange for financing, they promised to engage in awareness-raising in favor of the project. The DEEC official noted that the MoU would be given back to the population after being signed, for

accountability in the event of problems (Interview #41, 1 March 2016). While the broader "population" had been sidelined in the process of securing consent through the MoU, they would be informed *after* signatures had been obtained.

This process of securing consent was legitimized through two related territorial claims to place. Supporters of the mine suggested that Kabadio's historical claims to Niafarang's land enabled them to consent to the project. As one elder claimed, the population of Niafarang and Kabadio were one and the same, given that the former was merely a neighborhood of the latter. As Ibou also expressed, "The rice fields and the dune belong to Kabadio. Kouncoudiang [another village] and Niafarang are just neighborhoods of Kabadio. The issue doesn't concern 44 villages—it's just one village" (Interview #29, 11 July 2015).

An *alimamu* (imam) in Kabadio also upheld this position, during an interview months later. He was present, along with another elder, when Mohamadou took me to speak with the *alikaali*, who at that time was distrustful of Souley and me (fieldnotes, 4 September 2015). The *alikaali* remained largely silent about the mining project, leaving the *alimamu* to do most of the talking. Guarded throughout the conversation, the *alimamu* began asking me questions about my own position. I laid out the benefits and costs, as I understood them, but said that I didn't have a position. "It's a difficult decision," I said, hedging.

"It's not difficult," he interjected. "Ask *me*."

"In your position, personally, would you agree to the mining…"

"Yes," he said, his eyes lighting up as he interrupted my question.

"Why?"

"For all the reasons you said earlier," he said. "But what bothers me about your response is that you speak about Niafarang and Kabadio as though they are two populations." I asked him to explain. "It's not two populations," he continued. "It's one. Niafarang is part of Kabadio."

Here, he criticized my use of the term "population" and my consideration of Niafarang as a separate village rather than a "neighborhood" of Kabadio. Even Mohamadou, who was very involved in the Committee and opposed the forged memorandum, agreed with the basic sentiment that Niafarang "belonged" to Kabadio, based on the historical claims to land, articulated through the paradoxical "first-comer" claims outlined in the Introduction to this dissertation. As Carola Lentz (2013) shows, the "politics of first-comer claims" have paradoxically converted first-comer narratives "into an ideology of autochthony and are increasingly used to legitimate the exclusion of immigrants and ethnic strangers, who can no longer acquire an allodial title, from local citizenship and full political participation" (p. 20). In Niafarang, claims to autochthony also are contested by the Kalorn, who argue that they were the rightful historical residents of the area, prior to Mandinka invasions and conquests.

While earlier attempts to create a unified population had crafted a movement of solidarity and united opposition to the mine—led by many elders and youths in Kabadio itself—the signing of the MoU was legitimized through Kabadio's supposed ability to speak, as the population, on behalf of both villages. A regional administrator described the population whose consent to the project was sought as follows: "There's the *collectivité locale*, composed of various associations, including women and youth groups. There's the village of Kabadio, and other satellite villages… We want unity around the village of Kabadio" (Interview #53, 7 March 2016). This made Kabadio, and its population, the center of the negotiations, by portraying other villages as less important "satellites."

Additionally, proponents of the mine argued that the opposition had been driven and manipulated by "outsiders," at the expense of the "autochthonous" population**.** According to Ibou, his interest in understanding the project was motivated purely by intellectual pursuit. This, he suggested, distinguished him from those who were uninformed, outsiders, and/or protecting their own self-interest. He blamed "those who are on the dune" for enrolling the entire population in their attempts to defend their own personal interest in preventing the mine. "We need to work with intellectuals," he said, "because everyone has been misinformed by the Committee." Demonstrating his reasoning, he recounted a list of ways in which village residents' concerns were unfounded: the environmental effects were not that bad, the villagers already removed sand from the dune for house construction anyway, the mine had nothing to do with the Atlantic Ocean and its vagaries, and it wouldn't cause cancer or pollution, as people said. Furthermore, he argued, now the sea was depositing sand instead of causing erosion; at low tide, he said, one can see the recent extension of the beach. But, he added, stressing both autochthony and educated expertise, "The intellectuals and the autochthonous people in Niafarang are beginning to be for the project" (Interview #29, 11 July 2015).

In addition to Ibou and the "yes side" within the village, Idrissa Diop also stressed that the opposition had been driven by outsiders. For instance, he noted that Souley had been manipulated by a French man who had been deported for threatening violence in his opposition for the mine. State actors also emphasized the corrupting influence of outsiders on the negotiations.

The Committee knew that these claims about outside influence were being used to undermine the movement and present them as puppets of European tourists interested only in their own relaxing vacation spot, rather than in village development. Consider the outrage of one Committee member, Mamadou, outrage when a reporter published an article in *Ouestaf News* about the

Niafarang Project controversy. The August 2015 article quoted a Dakar-based commentator, who argued: "These Europeans on vacation or established in the area, some of whom have tourist lodges there, dream of vacation, and for them, the Casamance, like Africa, is just a tourist destination. For them, we don't have the right to develop. For them, Africa is just a party, a *bamboula*" (Ouestaf News, 2015). The article continued, "In their declarations and petitions, the members of the Committee scarcely mentioned this presence of Europeans, preferring to focus on ecological, health, and social risks. But, questioned by *Ouestaf News*, they admit that some Europeans are present in the area, and that certain members of the Committee have matrimonial ties [are married to] these Europeans." Mamadou, who met his Italian wife while living in Italy, was furious about this particular section of the article. He argued that it unfairly targeted him and used his wife's Europeanness to de-legitimize his opposition to the mine. Further, the media's reporting on this served to reinforce the claims made by Diop, state actors, and others that outsiders were driving the opposition, not pure, autochthonous "locals."

Conclusion

Resistance by and through notions of the population drew upon its multiple valences and its discursive functioning through multiple places. Skilled deployment of these place-based narratives allowed for the mobilization of multiple publics opposed to the project. Contradictions between these different publics were at times suspended in producing a unified opposition. However, countervailing narratives deployed by some state actors and proponents of the mine defined the "population" by recourse to a problematic and conflicted narrative of autochthony. By working against an expansive and fluid notion of the "population", this narrative aimed to legitimize one village's ability to consent to the Niafarang Project on behalf of the whole. Yet both narratives

"worked" because of ambiguities in definition, and in the language of the law, around the meaning of population.

Public forums designed to gain popular support were not strictly restricted by project area, administrative divisions, or residence. Thus "local" meetings were attended by foreigners, long-term residents from elsewhere in Senegal, and "autochthonous" ruling families; by Jola, Mandinka, and other ethnic groups; by Christians and Muslims. Representationally, claims about the population were articulated largely in cultural, familial terms through the sub-regions of the Fogny-Diabangcounda and the Fogny-Narang. The population was also discursively stretched to encompass the Casamance, and all the contradictions and complexities it represented. At each placing made possible by the ambiguity of the population, the assumptions made within other placings were both bolstered and undermined. For instance, the casting of the mining venture as a regional issue allowed for the involvement of the MFDC but also provided a legitimating mechanism locally, as even those not supportive of the MFDC often explained the mining venture according to narratives of regional marginalization and exploitation. As one informant said in describing a village's previous lack of involvement or interest in the mining controversy, "Now they understand that this concerns all of Casamance and the entire world" (fieldnotes, 14 Feburary 2016). I agree with the opinion of many informants that the negotiations would have been long over without the MFDC's claim to be aligned with the local population and the casting of the mining controversy as a regional issue. Yet the MFDC's involvement also undermined the multi-ethnic and pacifist approach of the Committee, creating tensions about how much to actively engage the separatist movement.

In the case I've described, I suggest that controversy reconfigures what and where the population or "affected public" is, who belongs to it, and who speaks for it. I have suggested that

territory is not necessarily the primary "container" for population; instead, territorial logics matter when effecting or asserting some form of rule, as occurred in discussions of "autochthony" and historical territorial claims as the basis of a certain village's right to speak on behalf of the whole population, or in the MFDC's opposition to the mine rooted in competing territorial claims to those of the nation-state. More broadly, though, the lack of a specific territory through which the population was "known" led to multiple and competing places in which the population could be imagined, constructed, and bound together. Furthermore, these places were built through various kinds of other spatialities, including politics of scales and international networks. The spatially ambiguous definition of population in common parlance and law allowed for the resistance to the mine to operate across multiple "places" simultaneously, producing both collaborations and conflicts. Meaning—for instance, being Casamançais in the context of the Niafarang Project—did not depend on clear definitions of place, population, or territory, but on the lack thereof, and on the fluidities and contingencies that this ambiguity made possible. Amid the negotiations, both the Committee and the "yes side" supporting the mine engaged in a representational struggle over legitimacy in claiming to represent the interests of a wider entity, a whole greater than the sum of its parts—a "population."

Interlude: "*Nous disons non*" (We say no)

Etienne, a quiet and serious teenager, worked in his father's rice fields during the rainy summer months. During the dry season, he collected small fees to transport equipment, villagers, and tourists (and me) between villages on his motorcycle, adorned with brightly colored fake flowers, colorful zipties, and a radio that emanated loud reggae music. Returning from his work, he and his motorcycle would join a group of local young men who gathered nightly outside of Jean-François' home, across from the church. After the sun set and the village fell into thick darkness, lit only by the waxing and waning of the moon, the young men sat on a wooden school bench. Meanwhile, Baba, a migrant from a village outside Ziguinchor, brewed *café Touba*, a coffee spiced with cloves and *jar* pepper[1], which he served in small, reused brown plastic cups for 100 fCFA (around $0.20 USD). In the background, as the men gossiped and joked, Etienne's music thumped and hummed into the night. One day, after several months of listening to Etienne's reggae, I realized one of the songs he played frequently was about Niafarang itself. *"Nous disons non à l'exploitation du projet de zircon,"* sang the Senegalese musician Dread Vivas from Etienne's radio, *"en Casamance et partout dans le monde"* (We say no to the zircon mining venture, in Casamance and around the world). The song was produced for a 2014 fundraising concert organized by the Committee, and in its lyrics as well as the broader strategy of which its production was a part, it highlights how the village of Niafarang had come to see and represent itself and its struggle as not only Casamance-wide but as a part of worldwide struggles against multinational mining companies.

[1] *Jar* is the Wolof word for Grains of Selim, seedpods of the shrubby tree *Xylopia aethopica.*

Chapter 5: Governing Alongside: Lateral State Spatiality and Unmet Expectations in Senegalese Mining Negotiations

Introduction

The emphasis in President Sall's Emerging Senegal Programme (PSE) on mining heavy mineral sands, including zircon, alarmed the Committee when this news came out in 2014. For members of the Committee and village residents, the enrollment of heavy mineral sands mining in the PSE signaled that, as one Committee member stated, "we are no longer fighting the multinational, but now the state."

When the Niafarang Project had changed hands in 2008, Astron closed the company's small Dakar office, leaving mining negotiations in the hands of Idrissa Diop, the consultant who had conducted the environmental impact assessment for the project. When Diop's approach was heavily criticized by the Committee, local residents, and local elected officials (*élus locaux*), appointed local state actors took over the negotiations, citing a need for clearer lines of communication. The state's involvement in mining negotiations with communities is thus another aspect of the state's fundamental role in securing access to national territory, which also importantly occurs through such administrative functions as changing mining, land, and taxation law to attract foreign investment (Bridge, 2014; Emel et al., 2011), and, ultimately, the sovereign right of the territorial state to forcibly expropriate land if necessary (Emel et al., 2011).

State actors' approaches to the mining negotiations performed what I conceptualize as a lateral state spatiality. This lateral state spatiality, in which the state is presented as "alongside" the population, emerges through historical, geographical, and cultural contingencies and contradictory sets of expectations about how states should govern. In this case, state actors emphasized three key rhetorics and relations central to contemporary governance and participatory

processes of mine approval: dialogue, fictive kinship, and accompaniment. Yet despite these rhetorics and relations, residents of Niafarang frequently included in their vehement opposition to the mining venture the refrain "the state has done nothing for us here." This complaint calls upon normative and unrealized notions of the state as distributively linked to the locality, doing *for* the people rather than alongside them. Tensions surrounding the performance of the state in Senegal highlight how promises of dialogue and participation are rendered impossible through the actual processes of negotiation and collaboration, which reveal expectations of the state as an authority "above" and accountable to the people.

Examining everyday encounters between state agents and subjects allows for an understanding of the routine practices, forms of knowledge production, and dramaturgical performances that enact a sense of state power (Björkman, 2015; Gupta, 2012; Hull, 2012; Kravel-Tovi, 2012), out of multiple contradictory impulses and imperatives (Camargo & Ojeda, 2017). The argument proceeds as follows: in the following section, I discuss connections between three key literatures on state spatiality, affective and relational statecraft, and expectations, and how Senegalese laterality in the Niafarang Project negotiations emerged through a set of diverse motivations and expectations. In the subsequent section, I trace how dialogue, fictive kinship, and accompaniment are performed and undone, drawing on ethnographic vignettes. Finally, I highlight how the performance of laterality comes up against popular expectations of the state's distributive function.

Performing State Spatiality, Affect, and Expectation

The state is constituted on some level by a vertical axis of power, enacted through mundane practices as well as through the territorialization of airspace and subsurface resources (Braun, 2000; Bridge, 2013; Elden, 2013; Weizman, 2007). In their approach to understanding the vertical

spatiality of the state, James Ferguson and Akhil Gupta (2002) show how state actors produce a sense of "vertical encompassment"—"a taken-for-granted spatial and scalar image of a state that both sits above and contains its localities, regions, and communities" (Ferguson & Gupta, 2002, p. 982). They also argue that through new configurations of sovereignty engendered by neoliberalization and global governance reforms, states have increasingly come to resemble civil society, even as they continue to be discussed through metaphors of vertical spatiality (Ferguson & Gupta, 2002).

The concept of lateral spatiality speaks to a growing disjuncture between the vertical spatiality through which the state is conventionally understood and the spatialities its actors perform, which are often horizontal, relational, and affective, drawing on social, familial, and cultural networks (Myhre, 2016). The state is produced and reproduced through everyday, ordinary social relations (Desbiens, Mountz, & Walton-Roberts, 2004; Painter, 2006; Poulantzas, 1980), through which the state is "entangled" with local cultural practices (Herriman, 2012) and influenced by its affective, moral, or arbitrary elements (Fassin, 2015). In navigating this, state actors co-opt the symbolic language of "cultural intimacy" (Herzfeld, 2005), as when leaders claim to be the "father" of the nation. Through encounters with subjects, "the state is … brought into relationships of friendship, locality, and kinship" (Herriman, 2012, p. 2), and produces a series of diverse "state affects" (Woodward, 2014). Examining the interactions between state agents—who are, of course, also citizens and individuals (Herzfeld, 1992)—and the populations they serve, repress, or neglect illuminates what Didier Fassin (2015) terms the "moral life of the state." The "state" is relational, produced out of cultural particularities, international connections and norms, and multiple forms of power (MacLeod & Goodwin, 1999; Marston, 2004)— what the "state" is, does, and should do is therefore emergent and iterative, the result of multiple (and often

contradictory) frameworks at different scales and everyday practices of state actors (Fassin, 2015; Mountz, 2010).

State actors situate their activities and personalities in broader frameworks of expectation, from international austerity programs (Peck & Tickell, 2002) to ethnically rooted legitimating practices expected by local actors (De Jong, 2002). The state is subject to a plurality of expectations that highlight "the ambivalent nature of state desires and rejections" (Camargo & Ojeda, 2017, p. 64) and multiple valences of "groups and individuals' lived (and wished for) experience with state power and its security apparatuses" (Hultin, 2015, p. 69). State discourses of development and/or welfare have in some instances reconfigured expectations of improved conditions (Ferguson, 1999; Li, 2007) into individualized, self-reliant forms of aspiration (Raco, 2009); yet popular sentiment often continues to express nostalgia for an imagined state that is simultaneously "not yet" realized and "not anymore" (Jansen, 2015) in operation.

In Niafarang, the emphasis on affective registers (such as brotherhood), processes linked to deliberative democracy (such as dialogue and negotiation), and accompaniment alongside the population demonstrates the ways that state actors' justifications of their work appropriates both cultural intimacy (Herzfeld, 2005) as well as international "good governance" narratives, particularly as they pertain to the legitimization processes of extractive industry. The confluence of these multiple frameworks effect a particular spatial imaginary in the context of the contentious mining negotiations in a historically separatist region: that of a state alongside its people.

Drawing on existing Senegalese forms of sociality, including joking relationships, the cultural importance of dialogue and debate, and horizontal "rituals of respect" (Gellar, 2005; Stepan, 2013), the lateral spatiality performed in the negotiations also responds to other kinds of expectations of what states should be and do. These expectations are informed by good governance

and decentralization paradigms, the sensitive context of regional separatism in Casamance, and international conventions on increased transparency in extractive industry, as evidenced by Senegal's participation in the EITI.

In response to abysmal failures of the market fundamentalism prescribed by the Washington Consensus and structural adjustment programs, supranational institutions have increasingly turned toward a "post-Washington consensus" (Sheppard & Leitner, 2010; Stiglitz, 2008) that encourages a revival of the state, advocating neoliberal economic policy coupled with a developmental state committed to "good governance," democracy, and the reform of public institutions (Stiglitz, 2008, p. 50). The ideal neoliberal state after the 1990s has become a decentralized, deliberative democratic state that is socially embedded, as well as market-friendly (Evans, 1995). Within this context, the ability of states and institutions to present themselves as in "dialogue" with local people and with local government has become not only a condition of loans but also key to self-affirmation as a democratic nation. Senegal, as a major recipient of foreign aid dollars, has worked to cultivate an image of itself as precisely the type of decentralized, deliberative democracy desired by international financial institutions and investors (Ralph, 2015). Reforms commonly referred to as Act III of Decentralization passed in 2013, explicitly focusing on dialogue as a mechanism of governance (République du Sénégal, 2013, p. 1). The invocation of participation, dialogue, and horizontality is thus an important aspect of governmentality in contemporary Senegal.

The state's approach to the Niafarang Project also takes into account the long-running separatist movement in Casamance and the particularities of governing there. Although a peace agreement was reached in 2014, the political branches of MFDC maintain their separate *Attika,* or armed forces, in remote locations in Casamance, The Gambia, and Guinea-Bissau (Evans & Ray,

2013; Marut, 2010). To control and monitor these militias, the illicit trades that finance the rebellion (Evans, 2005; Evans & Ray, 2013), and opportunistic banditry, the Senegalese government administers the Ziguinchor region under military occupation. This provides a distinctive regional backdrop to the state's cultivation of familiar, lateral relations with communities in the context of the mine, as it attempts to present itself as a civil entity (rather than simply military), cultivate an affective nationalism (Militz & Schurr, 2016), and integrate the locality and region into national development.

Broader governmental interest in participation and dialogue has been paralleled in extractive industries by a "social license to operate" (Welker, 2014) and increasing emphasis on transparency (Barry, 2013). States attempt to avoid the resource curses and conflicts that have plagued the relationship of many states in the Global South to oil reserves and other high-value resources (Le Billon, 2001; Watts, 2004). Through trends toward greater democratization of resource governance and governance more broadly, institutions legitimize themselves within an international realm of best practices, even as stakeholder involvement is blunted and distributive expectations of "development" largely unmet.

Performances of laterality by state actors work to produce a different set of relations between the locality, the region, and the nation, in the context of an extractive project. Attention to this particular spatiality illuminates the contemporary workings of power amidst multiple, fragmented, and often geographically incongruous layers of sovereignty and territoriality (Emel et al., 2011; Lund, 2011; Taylor, 2003). Laterality, which emerges particularly strongly in the rhetoric, performances, and practices of state officials in the Niafarang mining negotiations, is a spatial metaphor that both complicates and extends theorization of the production of state verticality. Laterality—and its limits—thus illuminates features of the mining controversy in

Niafarang, but also broader governmental paradoxes between legitimizing and accumulative practices of the state.

Rhetoric and Relations of Laterality

Amid these various frameworks of expectations, the authoritative, top-down state has been eschewed in favor of a state that invokes itself as working *with* the people and practices participatory, deliberative democracy, as a form of self-legitimization. The "lateral state" is enacted in the context of the Niafarang Project negotiations through dialogue, fictive kinship, and accompaniment, or "support." These are all aspects of broader relationality in the public sphere, which both connect and divide individuals and cultural networks (Myhre, 2016), which have been reworked by state actors in the political moment occasioned by the mining negotiations. The performance of the state as an actor alongside the locality is challenged, however, by circumstances that expose its limits and re-invoke vertical state authority over and above the locality. Laterality—and its contradictions—are expressed in the following ethnographic vignette, which introduces the three key rhetorics and relations that are then developed further.

I arrived with two male members of the Committee on a sweltering August day in 2014 at a dilapidated three-room building left behind decades prior by French colonial administrators. We were summoned into the air-conditioned office of the district administrator, Mr. Thiaw. Mr. Thiaw greeted us and meticulously recorded our names and titles in a notebook. "We're related," he told me, and explained that he had studied historical geography at Cheikh Anta Diop University, before doing a United Nations Development Program training in decentralization and good governance. Newly appointed to the district, Mr. Thiaw claimed that he had received a call from his childhood friend and "brother," President Macky Sall, after other appointees had rejected the post due to the threat of violence in the region and the 2006 assassination of a previous district administrator by

the MFDC.

Mr. Thiaw assured the two members of the Committee that he was working *with* the population on the mining controversy. He slid across his desk a confidential governmental memo, which explained the difficulties that Astron had encountered in trying to move forward with the mine and called upon the addressees to work with local communities to ensure that the mine would proceed in the second half of 2015. The men examined the document, and when someone called Mr. Thiaw out of the room, they quickly moved to take a photo—later used in community organizing efforts and on Facebook, to Mr. Thiaw's dismay.

This instance demonstrates several elements of the paradox of performing the state in Senegal, in the context of an extractive project as well as a region known for opposition to top-down state authority (Boone, 2003). Mr. Thiaw began by highlighting his training in decentralization and good governance, positioning himself as a technocrat well-versed in the best practices established by the international community. He also drew on a language of "brotherhood" and fictive kinship in aligning himself with President Sall, at the same time that he attempted to forge personal bonds of trust by leaking a government document to local activists. Through this encounter, Mr. Thiaw attempted to perform the state as both a vertical, hierarchical entity and as a lateral, "friendly" social actor to myself and the members of the Committee. In doing so he engaged in a rhetorical and material labor of sociality, in an attempt to perform a local state that exists "alongside" the people. As the publication of the memo on Facebook demonstrates, however, the effects of this sociality overflowed his intentions and became useful to the organizing efforts of the Committee.

Dialogue

The members of the Committee entered Mr. Thiaw's office in 2014 as part of an attempt

to engage in dialogue with the local state regarding the mine; his "accidental" sharing of the memo was also part of continuing this dialogue. As the memo had urged, district-level and regional state actors organized opportunities for dialogue with the local population about the mine. A participatory approach was seen as necessary in order to mitigate the damage done by early negotiations directly with corporate representatives, when company geologists testing for minerals took samples in 2004 without notifying local state administrators, consulting village chiefs, or communicating with village residents. As a result of this bypassing of local channels, appointed state officials as well as elected local officials commented that a major stumbling block for the project was the initial lack of community involvement and transparency; in response, the state became more involved in negotiating the project. As one state administrator noted, in the course of the negotiations, the state shifted from a strategy of largely ineffective "*régie totale*" (total state control) to a process of "dialogue."

However, the messiness and "disorder" of actually-occurring public debate (Staeheli, 2010) compelled state actors to ultimately restrict the extent of those with whom they discussed, and to attempt to contain excess and limit participation, as occurred during a public meeting about the mining venture held in the village of Kabadio. On a warm spring day in 2015, forty people sat on a series of plastic chairs and wooden benches set up in a semi-circle in the shade of mango trees, across from Mr. Thiaw and three elected local officials and overseen by a stern, uniformed *gendarme*. When we arrived, Mr. Thiaw was already speaking, stressing a need for "synergy between the state and the people." He encouraged attendees to come speak with him, citing his approach to administration that was based on openness, honesty, and availability. "If there is someone who wants to talk to me and who can't come to my office," he added, "I'll ask him what day he'd like me to come to his home and I'll be there." He and many other officials were indeed

available for business-related meetings after business hours, in their homes or public places.

Individuals stood and entered the circle to voice myriad concerns about the mine and the process surrounding it. Most commenced with respectful expressions of gratitude to the administrator and to other members of the audience, and then voiced their concerns about the mine and the process surrounding it. As the discussion progressed, one speaker stressed the need for local sustainable development rather than extraction; in support of his argument, he referenced as an alternative to extraction the horticultural initiatives led by Edith, a member of the Committee. Mr. Thiaw abruptly admonished Edith for not consulting him prior to beginning these projects. After two more men had provided their comments, Edith stood up to speak about her work. The district administrator interrupted her. “Where are you from?” he asked.

“Côte d’Ivoire.”

“Where do you live, and since when?”

She responded that she had lived in a nearby village for one year. In her characteristically oratorical and impassioned way, she resumed her speech about the need to empower women, but did not reference the mine directly in her comments. The district administrator, ordinarily composed and collegial, became aggressive. “I am the head of this district,” he said. “You are Ivoirian. You are a foreigner. You don’t belong here.” He continued to reprimand her, repeating at least three times throughout his response that she was an outsider. “In your place, I would be much more humble,” he scolded.

Other members of the audience were surprised and angry about this unusual hostility toward so-called “outsiders” in general and toward Edith in particular. Some stood up to denounce the district administrator’s behavior, and after the meeting, several members of the Committee remained furious about the public upbraiding of Edith. The authoritative manner with which Mr.

Thiaw put Edith "in her place" sat in stark contrast to his brotherly joking with the overwhelming majority of male attendees at the public forum, and represented an attempt to control unruly dialogue, requiring Edith to speak to him as an authority and isolating her as a "foreigner" with no business in the mining negotiations. This incident foreshadowed divide and conquer strategies that would be used by state actors in the negotiations, accomplished through dialogue combined with restricted participation.

Wrapping up the meeting, Mr. Thiaw affirmed the nature of the state as listening to the people: "You have the state in front of you, and I'm listening to you." Through this remark, he represented himself simultaneously as a living, locally accessible incarnation of the state, facing and listening to the people, and as representing the hierarchical authority of Senegalese state bureaucracy.

Following the public meeting, a member of the Committee mentioned, chuckling, that Mr. Thiaw had also caught himself in a trap by referencing his previous post in a gold-mining district of Eastern Senegal. In the eyes of Committee members and local residents, his comment confirmed the suspicion that he had previously negotiated controversial gold mining concessions and had been sent to their district to do the same for zircon. Any commitment he expressed to dialogue, then, was overshadowed by the belief that he had been appointed at the behest of the mining corporation and was "dangerous" because of his strategic role. Comparing him to a previous administrator who had had very little knowledge about the zircon file, one Committee member said in our discussion following the meeting, "He [the previous administrator] was an idiot. This one is dangerous, and a demagogue." Another Committee member then chimed in: "I know him well, he's dangerous. He's a snake. The state can't use force, so he's trying to circumvent the process." The prevailing interpretation of Mr. Thiaw's engagement with the public as a strategic

and dangerous circumvention thus illustrates the paradox in which dialogue, participation, and transparency in fact, foster increased distrust and controversy (Barry, 2013).

This distrust can be glimpsed in a parallel process of strategic outreach to local authorities deemed more pliable than others, as witnessed in the village of Kabadio. While village meetings in Niafarang include both men and women seated in a circle, in Kabadio decisions are made through the *chef*'s consultations with other villagers and are ultimately the prerogative of village elders. Women are not present at public meetings, and youths are generally not granted decision-making power. Dialogue in Kabadio between state actors and male residents and notables could avoid the messiness of a wider public forum, and residents from Niafarang were in fact turned away from this meeting, as discussed in Chapter 4. The establishment of dialogue with Kabadio thus began the process of negotiating terms for a Memorandum of Understanding for the mine. While Niafarang residents stood to be directly impacted by the project, dialogue with elders in a hierarchical social structure in a nearby village was more expedient to the goal of gaining clear consent to the mine. In the actual process of dialogue about the mine, via the public forums, expectations of development and laterality spiraled out and had to be reined in. This was achieved, paradoxically, through claims to hierarchical authority and by restricting participation to the consent of social organizations that were likewise hierarchical, at the expense of a broader, notion of public participation and democratic deliberation.

Fictive Kinship

At the public meeting in May 2015, Mr. Thiaw stated solemnly to the crowd, "I consider myself to be speaking to brothers and friends." He joked with key members of the Committee who stood up to speak in opposition to the mine, including referring to one man, Mamadou, with his pet title of "The General," and asking him jokingly whether "*Madame*" was the captain at home.

Although some elements of his rhetoric could be interpreted as paternalistic, the language and demeanor deployed was explicitly that of the older brother. The cultural relevance and practice of fraternity is aligned with the broader political context of decentralization to which Mr. Thiaw was committed; a "fatherly" role would have reproduced perceptions of Senegalese "colonization" of Casamance (Boone 2003). Supporting this brotherly affect in practice, Mr. Thiaw planned a visit to the first baby born in the district in 2016 with other state agents; attended baptisms, weddings, and funerals; and called villagers personally on the phone to wish them Eid Mubarak and to request forgiveness[1], as well as sporadically to check in. This material labor of sociality, articulated through the idioms of brotherhood and friendship, sought to forge bonds of fictive and horizontal kinship with the community.

Responding to Mr. Thiaw's brotherly performances, Mamadou recounted that Mr. Thiaw had called him at midnight to tell him "You're my brother, I miss you" and to invite him to come visit. "Oh I'll visit him, all right," joked Mamadou. "I'll stop by his office to confront him about the mining project when he's least expecting it." In this response, Mamadou took seriously the cultural practices of calling and conversing, but sought to use Mr. Thiaw's invitation as an opportunity to advance his own priorities about the mine and hold the state accountable to local demands. In another instance, an elected local official whom I met by chance in a restaurant began discussing the mining venture. As we spoke, he received a series of calls from Mr. Thiaw. "*C'est mon grand*" (It's my older brother), he told me, smiling. He picked up the phone, and answered with "*Allô, mon grand-frère*" (Hi, older brother). He then received a call from the mayor, which he answered with "*mon père*" (my father). The local official then walked me to his office to meet

[1] Asking for and granting forgiveness for generalized sins (*Baal ma aq*, in Wolof, followed by the responses *Baal naa la* and *Na Yalla na ñu Yalla boole baal*) is a ritualized practice in celebration of Eid.

the mayor, pointing out on the way the stark differences between the airy, newly-constructed local government building where he worked and Mr. Thiaw's tiny office, which he described as a "trashcan." The mayor, by contrast, expressed less collegial feelings toward Mr. Thiaw. When I mentioned that Mr. Thiaw had suggested I speak with him, he raised an eyebrow. Continuing to nonchalantly sign forms, he muttered, "He should just keep to himself over there. He's not my friend."

In state-making and contestation, elected local officials, community members, and state agents frequently draw upon relational references to "*mon grand*," "*mon frère*," or "*mon ami*"—which occur frequently in daily salutations and respectful greetings—and the practices of sociality accompanying them. However, as Mamadou's threat to show up as a "surprise" suggested, taking these fraternal overtures seriously overflowed the intentions of Mr. Thiaw's original utterance, inviting further discussion and debate about the mine. These vignettes demonstrate how the friend/brother paradigm is deployed, positively or negatively, in relation to the administrator, and the mobilization—and refutation—of these bonds of fictive kinship in the state-society relationship.

Broader historical kinship relations were also articulated in the negotiations, through the relations of *cousinage à plaisanterie* (joking kinship) between patronyms and ethnic groups (Smith, 2004; Canut & Smith, 2006; De Jong, 2005). Mr. Thiaw frequently emphasized his Sereer ethnicity, drawing on the joking relationships[2] and historical ties between the Sereer of the Sine-Saloum Delta and the Jola of the Casamance. Joking kinship and relationships are important ways of locating individuals within genealogies and networks, and working out power relations that

[2] Étienne Smith (2004) distinguishes between the *parenté à plaisanterie* (joking relationships within cultural groups, based on actual familial ties) and *alliance à plaisanterie*, which are broader cross-ethnic or patronymic relations not necessarily based on any direct familial link (p.159).

express both equality and difference (Smith, 2004, p. 166); they have also been seen as important in resolving conflict and diffusing political tension (Canut & Smith, 2006; Smith, 2013). In Senegal, they serve to diffuse political tensions and maintain “proportionate equidistance” and “equal respect” for religious and ethnic sub-groups (Smith, 2013). Within Senegal’s unique brand of secularism and its eschewal of ethnic politics, state officials aim to cultivate relations with all groups, without express identification with any particular one (Stepan, 2013; Diouf, 2013; Smith, 2013). The credibility of this performance is debatable, however, given the economic dominance of the Murid Sufi brotherhood (Buggenhagen, 2010; Diouf, 2000; Beck, 2001), and Wolof dominance in education, language, and politics (Beck, 2008; Diouf, 2001; McLaughlin, 2008)—although this too obscures that ethnic belonging (including adoption of Wolof language or identity) is hybrid and fluid (McLaughlin, 2001; on ethnic drift and ethnogenesis among Jola and Mandinka populations, see also Thomson, 2011; Linares, 1992; Mark, 1985, 1992).

In Casamance, joking relationships play a role in the state’s attempt to manage conflict, and to embed itself within the cultural and social fabric. According to Ferdinand De Jong (2005), in addressing the Casamance conflict, the Senegalese state “has canonized joking as a ‘tradition,’ appropriated it as a policy, and inscribed it into a nationalist discourse that imagines the nation as made up of ethnic groups related through joking relations” (De Jong, 2005, p. 391, 2002). This instrumental use of joking relationships relies on both the reification of discrete ethnic categories, as opposed to the fluidity through which membership and identity developed over time (Mark, 1985; Smith, 2004), and on understandings of the Casamance conflict as primarily ethnic. In this context, joking relationships have been instrumentalized as a tool of political control for negotiating the regional separatist conflict and regional identities grounded in marginalization and difference that persist despite peace talks, truces, and campaigns to remove antipersonnel mines in

the 2000s and 2010s.

When asked whether Sereer agents were preferentially assigned to the district, Mr. Thiaw responded, "Not necessarily, but it's true that since the crisis [of the Casamance conflict], the government has preferred to send the Sereer." Other state agents in the district I encountered during fieldwork were predominantly Sereer, Mandinka, and Mancagne, with very few agents of Wolof extraction. Thus, state agents in Casamance worked to perform a particular *kind* of local state that is composed of individuals who are linked through ostensibly ancient kinship relations to the Jola populations of the district and region, and who cultivate familiar relations in the communities where they work. In the context of the mining project, the "lateral relations" (Smith, 2004, p. 162) of joking and fictive kinship relationships were mobilized to generate a sense of shared nationality, and to present Mr. Thiaw and other state agents as acting "alongside" local people. Even as these relationships are enmeshed in hierarchical state appointments in the region, they attempt to work against the perceived patrimonial, colonial nature of the Senegalese state in Casamance, in which extraction and marginalization go hand in hand.

Accompaniment

Nearly every state official encountered in the course of research—both those working to get the Niafarang Project approved and those involved in entirely different efforts, around conservation and protected areas or routine administrative functions—emphasized "*accompagnement*" or "*appui*" (support), as an administrative approach focused on collaboration with villagers and ideally following the priorities of local communities. As one regional administrator highlighted, this logic of accompaniment was also an important part of state discourse in the political context of the mining negotiations. "The people should feel the presence of the state and the *accompagnement* [accompaniment, support] of the state," he said. "They need

to feel the state at their side." Here, he describes the state as *alongside* the people, working *with* them, mirroring a language in international policy documents that emphasizes relational statecraft and "government *with*" rather than government *for* the people.

For Mr. Thiaw, too, the state should accompany the population and act in accordance with the people's will. Mr. Thiaw also clearly viewed his own role as mediating between local interests and the exigencies of national development and multinational mining companies, "alongside" the local people. One day, he sat across from me at his desk, in uniform for the first time since I had first met him over a year prior. "I'm a social mediator between the people and the Astron Corporation," he explained, "in order to bring them closer together." He continued:

> The state is supposed to be with the population, and alongside the population. The role of the state is to protect the population. And the guy from Astron has started to be dishonest. The reason that the people are against the mining project is his approach, because you have to understand the sociology of the population. It's an issue of language. He was haughty with them, and should have simply informed them and shown them respect.

For Mr. Thiaw, the company representative (a Dakar-based environmental consultant who had also conducted the Environmental and Social Impact Study for the project) had entered the dialogue with community members in a "haughty" and top-down manner, necessitating the state's role as a "respectful" mediator and arbiter with the local population. With the company itself having no official representation or offices in Dakar, it had elected to entrust a private individual with the negotiations; this led, understandably, to confusion, distrust, and controversy, which had blocked the negotiations and required the state to become involved. For Mr. Thiaw, the regional administrator, and others advocating accompaniment, participatory processes would encourage people to trust the state.

In particular, the regional administrator emphasized the environmental service, and their success in working "alongside" villages, through participatory conservation programs. In

Niafarang, environmental service agents work directly with the population, through the community-based protected areas and marine protected areas in the zone. State agents, most holding military rank, are assigned on rotation to the MPA of Abéné or the Kalissai Bird Reserve further south. Agents frequently appear in the village working on conservation and income-generating projects, and they hold public meetings designed to gauge villagers' priorities and redress problems. The regional administrator believed that the presence of these agents, would ideally inspire confidence in the state, which could then be extended to build trust in the mining negotiations.

However, the actual practice of community involvement (and its limits) undergirds the tension latent in performances of the state. Rather than building a sense of trust in the state that could be transferred to trust in the mine, as administrators hoped, the juxtaposition between official state support of the mine and the "accompaniment" paradigm for the district's environmental service which the regional administrator praised has instead led to criticisms of hypocrisy.

During one meeting organized by the MPA, a member of the Committee interrupted to point out the threat the Astron mine posed to the MPA and the Niafarang sand dune, a natural barrier against the sea. The state agent leading the discussion redirected, resuming his call for greater cooperation between the population, the state, and elected local officials. He paused. "That dune," he began, using cautious wording to return back to the comment issued a few minutes earlier, "we need to plant more casuarina trees on the dune. People don't understand the natural function of the dune and the disequilibrium caused by the removal of sand."

Later, during a lunch break, I sat in the back of the room with Serigne, another member of the Committee. Serigne asked me excitedly, "Did you hear what the agent said, about the sand dune?" He then complained about state agents who encourage people to protect the environment

and then refuse to speak out against a mine that would endanger it. “They can’t say anything against the mine,” he concluded, “but that’s what he meant when he talked about the dune.”

Serigne read in the agent’s cautious wording a form of silent support to the people, and was frustrated by the incompleteness and informality of that support. In this case, the accompaniment paradigm undid itself through the inability or unwillingness of trusted state agents to provide tangible support to villagers in their struggle against the mine. These environmental agents, who often expressed criticisms of the mine in private, refused to publicly side with villagers on the issue, citing their roles as part of “the state.” Their strategic silence served to produce a “state effect” (Mitchell, 2006) affirming the singularity and verticality of the state, which went against commitments to accompaniment and support of villages. For villagers, this was frustrating and indicative of the state’s failure to deliver material goods and development to the region and the locality, leading to criticisms of hypocrisy rather than a sense of trust, as administrators hoped.

The Lateral State as Self-Interested State

While state actors sought to cultivate relations of laterality, legitimizing the governance and conduct of the mining negotiations by presenting the state as “alongside” the people, this inspired among village residents a sense of the state as a self-interested actor, rather than as an encompassing and being institutionally accountable to the population. After all, Serigne appreciated what he interpreted as the MPA agent’s guarded support, but this support on the part of a single actor did not attenuate his frustration with the lack of institutional objection to the mining project. By contrast, the “state,” discussed as a singular, unified actor, was described as working in “its” own interest, rather than for the protection of the people.

For years, residents of Niafarang and members of the Committee demanded that “the state” come to the site of the proposed mine to negotiate, so that it could “see” the environmental fragility

of the village and the foolhardiness of the project. One afternoon in March 2016, I was conducting an interview in a distant area of the village when we heard loud Senegalese pop music and megaphone announcements blasting in the distance, growing louder. "They're here to talk about the referendum," said my interlocutor, referring to a highly politicized and much debated referendum seeking to reduce presidential term limits and reform the judiciary. (Local supporters of the referendum had already posted a "*Oui*" sign to the large kapok tree at the entrance to the village.) "They'll be gone by the time you get back to the village," my interlocutor added, cynically.

As I walked back to the village center, the music faded into the distance. I found a group of men gathered under the large tree that served as the village meeting place. One man waved a colorful flyer in the air, yelling that it was all just a ploy to encourage the mine. The flyer itself provided ten reasons why Casamance should vote "yes" on the referendum; residents were outraged by the points that focused on the development of the region, which they believed was a euphemism for the mine. Amid the commotion, one village elder approached me, distressed and yelling "*Hani, hani*!" (No!). "I said no, I've always said no," he insisted. Using both Mandinka and French, he reiterated: "When you write this down, write that I said no."

After this arrival of the national state in the village—although unrelated to the mine itself—villagers immediately replaced the sign on the kapok tree with one reading "*Non*." Their rejection of the national referendum was based on a view of the state as a distant actor pursuing its self-interest. The politicians had not come to the locality to "see" the material conditions of economic marginalization and environmental degradation experienced by residents, but to advance the agendas of President Sall and the center.

This vignette illustrates a normative idea about what states should be and do, and the failure

of the Senegalese state to do so in Casamance and in Niafarang. In spite of the numerous routine practices and rhetorical devices that sought to portray the state as newly decentralized and functioning "alongside" local communities, in nearly any conversation with villagers (particularly Jolas) the refrain remained: "the state has done nothing for us here." This may seem paradoxical, as the state, by "accompanying" the villagers, was actually quite present in the district. But the paradigm that praised dialogue, negotiation, and accompaniment was fundamentally at odds with many popular views of the state, which emphasized the state as unable to provide, except in its own interest. For example, one village resident stated, stressing self-interest, "The government and the corporation are doing it [building roads and installing electricity] just in their own interest." Another blamed a lack of political will: "The government knows very well how easy it would be to help us here, and how little money would be needed, but they still don't do it."

These statements underscore the inability of the state to keep its promises to local communities and its refusal to provide assistance or material support. In popular views, a legitimate state should be above the people, building schools, hospitals, and roads for them. This echoes the recent theorization of distributive politics by James Ferguson (2015), in which individuals are entitled not only to abstract rights and citizenship but to material and financial transfers. In short, the Senegalese state, while very much present in Casamance, is commonly viewed as ineffective; this ineffectiveness, and the lack of faith in the *distributive* capacity of the state, forms a large part of the protest against the mine and distrust of lateral, affective relations with state actors.

Conclusion

Attention to laterality raises questions about new spatialities of power that have emerged from the push toward accountability to international norms (Ferguson & Gupta, 2002). Laterality

is but one spatial metaphor of power performed by state agents involved in the mining negotiations in Niafarang, and it operates in tension with vertical claims to authority, sovereignty, and national development. The Senegalese state's outward rejection of force or territorial power in securing the Niafarang Project was a result of both local histories of conflict (in Casamance) and the institutional commitments of the state to participatory, democratic decentralization. In this context, state actors pursued a framework of negotiation rather than imposition.

However, the practice of cultivating and drawing on lateral relations and networks to generate governmental legitimacy resulted in the undoing of state actors' aspirations. By the end of fieldwork in 2016, the district administrator had publicly refused to continue with negotiations because of rising tensions with community members and accusations of his role in corruption attempts. Much as the leaked memo had produced further organizing and debate, Mr. Thiaw's attempts to work "alongside" the community and to cast himself as a friend, brother, and mediator to both the central government and local residents were undone by an excess of expectations. This occurred in two ways: first, through sporadic invocations of a more hierarchical authority in attempting to reign in the unruliness of participation; and second, through the manifest inability of laterality to deliver any material improvement in the lives of individuals.

Mr. Thiaw himself attempted to restrict participation to only more compliant village residents, in order to prevent dialogue from spiraling out beyond his control. Further, he removed himself from the negotiations when his own entanglements became politically problematic; responsibility for the negotiated thus escalated to higher levels of the administration. As community members had feared, the negotiations, once transferred to higher levels of state government, became less transparent and less engaged with village concerns. Local state agents, who had been charged with creating clearer lines of communication with the locality, came to have

very little knowledge about the finalized mining accord, which was relayed verbally to the village by the company representative in early 2017. No state agents were present when he initially informed Niafarang residents of the mine's approval. This process displays the tensions and ambivalences between the spatialities of the state as both "alongside" the community and "above" it; its outcome highlights the ways in which the economic imperatives of the state ultimately trump accountability to the locality.

Villagers also wanted "the state" to come negotiate on the dune proposed for the mine site—they wanted, as did Stef Jansen's interlocutors (2015), to be "seen" by the state, to be acknowledged, and to be directly and materially benefited by national development. This frustration led to outrage when "the state" did at last come, but for its own unrelated objectives. Performances of laterality, in this case, thus insufficiently addressed concerns about the Senegalese state's ability to uphold the terms of the mining contract, ensure the redistribution of revenues to the locality, and enforce rehabilitation of the site after mining commenced.

Beyond the specificities of this case, laterality offers a way of thinking about how affective practices and diverse expectations produce multiple and contradictory spatialities performed by state actors. In this sense, then, laterality is part of a broader conversation about taking seriously both the promise of state commitments to public participation, distributive development, and accountability, and the serious limitations of these approaches in practice.

Chapter 6: Overflowing the "Social License to Operate": Corruption Talk and Community Divisions

"Years ago, people came to Niafarang from Kabadio. They went house to house collecting guns, because they said it was a village of 'rebels' [involved in the MFDC]."

"What did they do with them?"

"They're still there, in Kabadio. If anyone uses force against us in Niafarang, it will not be the state. It will be Kabadio" (fieldnotes, 9 November 2015).

Introduction

This chapter focuses on how rumors and corruption talk disrupted and exceeded the securing of a social license to operate, fueling distrust and doubt that pushed back against the mining license signed in June 2017. It asks how discrepant and divergent stories were articulated and used by differently positioned groups, on the one hand to legitimize the form and process of public approval, and on the other to discredit it.

The "social license to operate" is a loose and often unofficial form of local consent that offers legitimacy to mining corporations. With reference to the Niafarang Project, Astron's social license to operate has appeared in three forms: the Memorandum of Understanding (MoU) reached between the company, the state, and the community; corporate sponsorship of sports teams; and a public inquiry process, which focused on a state-commissioned survey to ascertain the level of public support for the project. I argue that these components of the social license to operate represent a sterilized and exclusionary form of consent, designed to check off boxes for the purpose of broader legitimizing strategies centered on participation (including accountability, transparency, and corporate social responsibility). Together, these discourses are designed to demonstrate corporate commitments to participatory governance and, often, local development.

However, the corporation's claims about their local legitimacy mask the tremendous amount of distrust, divisiveness, and corruption talk that accompanied "popular" approval of the mine.

These stories focused centrally on *contournement* (circumvention), "*achats de conscience*" (literally, the purchase of one's conscience, used to describe direct or indirect payments in elections and other political processes—essentially, vote buying), and "*tentatives de corruption*" (attempts at bribery or corruption). I found stories of bribery and secret negotiations about the mine being discussed throughout my fieldwork, as having played a role in how Astron was understood to have secured a tenuous and exclusive approval by certain members of the population. They were also key ways in which people described the normative local moral economy, based on relations of solidarity, sharing, and public discussion, and their perceptions of the Niafarang Project's disruptions of those values.

Rumors, anecdotes, and gossip overflowed the mining project's attempts to secure popular legitimacy; they rested on aspects of the negotiations that had not been witnessed or discussed publicly, in the sense that they were normatively expected to be (both by the rhetoric of transparency and accountability and by the local moral economy). In being circulated, they undermined and challenged the participatory or public nature of the social license to operate, instead focusing on exclusivity and secrecy in these exchanges. This bred divisiveness and distrust about where individuals truly stood on the mining project, who had been "bought," and what was happening in various meetings. Community divisions and distrust in turn played a role in fueling further continuations in dialogue and negotiation with the state and critiquing the popular approval of the project, perceived as exclusionary, corrupt, and manipulated.

The Social License to Operate, Rumors of Corruption, and Moral Economies

Less than a binding or official contract, the social license to operate refers to a broad-based community support that exists beyond and in the interstices between official agreements, licenses, and accords. First employed in the pulp and paper industry to gain public confidence and avoid

costly regulations, it was taken up by mining corporations amid controversies in Melanesia in the late 1990s (Kirsch, 2014, p. 209). Stuart Kirsch (2014) contrasts the social license to operate with the World Bank's stipulation that mining projects undergo a free, prior, and informed consultation process with Indigenous groups[1]; the social license is a strategy to reassure shareholders and reduce risks to the company, rather than a meaningful engagement with human rights or participatory decision-making.

In addition to critiques of its conceptual weaknesses, the social license to operate is also subject to many of the broader critiques of decision-making and participation within paradigms focused on accountability, transparency, and corporate social responsibility (CSR). For instance, Fabiana Li (2015) suggests that mining corporations' strategies of informing and consulting communities allow them to claim to be meeting the expectations of participatory mining governance, even when actual participation is stunted, exclusionary, and ineffective in reshaping policies. Focusing on transparency, Andrew Barry (2013) has also argued that sharing information creates new forms of withholding and also serves to generate additional "public knowledge controversies" (Whatmore, 2009), rather than resolving debate. With respect to CSR, Marina Welker suggests that corporate security and risk prevention is cultivated through community connections; in the case she describes in Indonesia, local elites have been transformed into the first line of defense against activists' protests against mining (Welker, 2009, p. 143). She argues that this community policing has been cultivated and actively encouraged by the mining corporation, in exchange for the developmental initiatives that are part of CSR (Welker, 2009). As voluntary and internally-defined commitments that aim to serve both business and local development goals,

[1] He in turn contrasts this process with the nearly identical free, prior, and informed *consent* process, with which it shares an acronym. This latter process, advocated by the International Labor Organization and the United Nations more broadly, is stronger in terms of requiring actual consent (rather than simply consultation).

CSR programs generate legitimacy for mining corporations. But at the same time, like accountability, transparency, and other forms of "participatory" resource governance, they also produce exclusionary and fractured publics.

Focusing on negotiations for a gold mine in Papua New Guinea, Alex Golub (2014) argues that both the mine and the local group appear as "leviathans"—unproblematic, cohesive wholes that act as unified entities rather than as assemblages of separate individuals. In reality, he suggests, they are "laboratories," in the sense that "the closer one approaches, the more one sees conditions of novelty and innovation, the proliferation of controversies, and … struggles and negotiations to define what is problematic and what is not" (Golub, 2014, p. 12). Similarly, I argue that while the social license to operate is presented in Astron's annual reports as fixed, unified, and legitimate, it emerged through—and in spite of—vociferous debate and community divisions. The components of popular approval also generated rumors of corruption, which fueled further division and controversy; this situation worked to destabilize the tenuous approval that Astron had received and to extend negotiations.

The rumors that surrounded the Niafarang Project focused largely on "corruption talk," or narratives and discourses of corruption (Das, 2015; Gupta, 1995; Sedlenieks, 2004). Both accountability and corruption (as a critique of accountability) are socially and culturally constructed, within bureaucratic institutions but also through everyday interactions (Blundo et al., 2006; Gupta, 1995; Lomnitz, 1995). For this reason, many scholars have sought to understand the operation of corruption not as the breakdown of clearly defined legal norms separating public and private, but as a culturally-specific "complex" (Olivier de Sardan, 1999) of diverse activities,

payments, and practices,[2] a way of talking about activities that are beyond the pale of normative expectations, and a discourse that instantiates "the state" as an certain kind of entity (Gupta, 1995)[3].

In the Niafarang Project negotiations, "corruption" was a charge levied against state actors, Astron, and Idrissa Diop, but it was more frequently used against local residents who were openly in favor of the project. Discussions of corruption often focus on "upward" transfers, in which individuals channel financial resources to state officials, (re)producing attendant inequalities in social and economic capital (Gupta, 1995, 2012; Jeffrey, 2009; Robbins, 2000b). But in the Niafarang Project negotiations, bribes were reputedly offered "downward" to individuals in the villages; these charges met with more vitriol than accusations of the "corruption" of public officials. Much as corruption has been interpreted as a way through which local people talk about and bring into being "the state," it serves in this case as a critique of the "community," targeting those who are judged to be more concerned with their private interests than the good of the population.

[2] According to Jean Pierre Olivier de Sardan, this may include embezzlement, nepotism, bribery, abuse of power, or abuse of public finances, *inter alia* (Olivier de Sardan, 1999, p. 27).

[3] Another body of work also focuses on the functions of corruption as emerging through the state's need to demonstrate generosity to local constituencies (Lomnitz, 1995). These arguments suggest that corruption in fact plays a central role in government, particularly in Africa (Bayart, 1993; Bayart, Ellis, & Hibou, 1999; Blundo et al., 2006; Mbembe, 2001; Olivier de Sardan, 1999) but also through the practices of everyday corruption and rule-bending, which is how things actually get accomplished in numerous contexts around the world (Anjaria, 2011; Gupta, 2012; Jeffrey, 2009; Robbins, 2000b). According to Peter John Perry (1997), the observed prevalence of corruption in political systems and economic growth in some cases was, in older work, used as the basis of a functionalist theory of corruption in the 1970s, based largely on Samuel Huntington's work (Huntington, 1968). This work viewed corruption as emerging through the process of modernization, bridging the gaps in developing societies between the established political order and the expanding social needs of the population. Similarly, James Scott (1969) interpreted urban political machines in the US through the lens of corruption, as thy "have long been credited with wedding the immigrant to the political system by protecting him, meeting his immediate needs, and offering *personal* (particularistic) services" (p. 1155, emphasis in original). Further, those politicians who sought to reduce corruption by targeting the political machines soon found that "the cost of 'clean' government was a marked loss of support," in the form of votes (Scott, 1969, p. 1155). While I do not take up this line of argument about the functions of corruption, it is worth noting that this work pushes back against dogmatic anti-corruption programs, by highlighting the ways that corruption is far more complex—and in some cases, socially-sanctioned—than presented.

But if a private individual, like Idrissa Diop, offers another private individual a sum of money for helping to see the mining project realized, in what sense is this corruption? It is not strictly illegal—it does not qualify as "corruption" by legal definitions, which often focus on the appropriation of public office for private gain (Bähre, 2005, p. 107). However, it may be part of the broader "corruption complex" through which residents make sense of, justify, or condemn practices within the moral economy (Olivier de Sardan, 1999). In this sense, residents' critiques of local "bribery attempts" echoed discourses around state corruption, which are often articulated through languages of consumption—*bouffer* (to eat, to stuff oneself) and "having one's mouth wide open" (Olivier de Sardan, 1999, p. 28), the "politics of the belly" (*la politique du ventre*) (Bayart, 1993), or "chopping" and eating (Hasty, 2005). Locals who were believed to have accepted bribes were considered to be prioritizing their own consumptive desires, rather than thinking about the future of the villages as a collective. In other words, corruption talk is about debating morality, criticizing maldistribution of benefits, and making claims to redistributed wealth (Lazar, 2005).

This is in keeping with the suggestion that corruption talk is at the core about interpretations of and violations of local moral economies (Olivier de Sardan, 1999; Pierce, 2016), and that discussions of corruption reflect shifting and divergent cultural understandings of the relationships between the "public" and the "private" (Rothstein & Torsello, 2014; Shore & Haller, 2005). Moral economy has been defined as a society's "view of social norms and obligations, of the proper economic functions of several parties within the community" (Thompson, 1971, p. 79), or their "notion of economic justice and their working definition of exploitation—their view of which claims on their product were tolerable and which intolerable" (Scott, 1976, p. 3). As these theories suggest, riots and collective action have often been the result of disruptions to these moral

economies, by attempts to increase levels of exploitation or extraction. In Niafarang and surrounding villages, I suggest that corruption talk surround the mining negotiations was a way of asserting the value systems within the moral economy, which advocated public dialogue, shared resources, and collective development, and condemned individual self-interest and consumptive use of money.

Corruption talk also highlighted the way that local moral economies and solidarities (albeit constructed and somewhat romanticized) had been disrupted by the Niafarang Project. Many residents saw these disruptions as part of "divide and conquer" politics, designed to break apart community ties and social commitments to a shared developmental future. These types of practices are certainly not impossible, as bribes have in other contexts been distributed to local leaders as part of military strategies of pacification (González, 2009; Speed, 2006) or to gain favor within decentralized resource management programs (Ribot, 2009; Véron, Williams, Corbridge, & Srivastava, 2006). "Divide and conquer" strategies have also been observed in mining and petroleum extraction, through the signing of individual leases (Willow & Wylie, 2014). In numerous other cases, attempts to cultivate individual relationships or agreements and sub-divide groups into more malleable units have produced racialized, economic, or other forms of social stratification and divisiveness (Kurtz, 2003, p. 907; Willow & Wylie, 2014). The divisions produced in the Niafarang Project negotiations were the product of accusations of bribery, suspicion about private or secretive meetings, and distrust about who was putting their individual needs first, and who was defending the interests of the community. This fueled ongoing debate about the various components of Astron's social license to operate within the local moral economy. Yet this distrust also weakened the Committee itself, by producing skepticism about who was

actually on which "side." In some cases, this led to resignation and hedging, which may have also contributed to demonstrating popular consent to the project.

Because of the difficulty of actually *proving* that bribes were offered, and the futuristic, contingent form they were believed to take—as promises made for payment *if* the mine were successfully approved—I utilize these stories in the vein suggested by Anna Tsing (1993), as rumors that act as windows into social realities and local wisdom. In her historical account of colonial Africa, Luise White also uses rumor and superstition to understand "the world rumor and gossip reveals" (White, 2000, p. 5). She suggests, "stories perhaps articulate and contextualize experience with greater accuracy than eyewitness accounts. They explain what was fearful and why" (White, 2000, p. 5). In African contexts, scholarly analyses of these processes have often focused on witchcraft and occult practices (e.g. Bonhomme, 2012, 2016; Geschiere, 1997, 1998); here, the dangers of the situation were articulated not through mystical discourses, but through the charge of corruption and bribery. In the case of the Niafarang mining proposal, rumors about circumvention, bribery attempts, and vote buying or conscience buying focused on promises and pursuits of future individual wealth that have divided the community. Using rumor as a window into social worlds, I explore the ways in which rumors about bribery and the "buying" of consciences overflowed the attempts to secure the Niafarang Project's social license through a Memorandum of Understanding, corporate sponsorship, and a public inquiry process.

It should be noted, however, that I never saw any money exchanged, nor did many of the individuals telling the stories. Money exchanges, bribery attempts, and secret meetings were discussed through others' stories, although many of the stories I include here have been corroborated by others, including state officials, environmental consultants, and other village residents.

Memorandum of Understanding

In their 2015 Annual Report, Astron described the process of securing what they refer to as "memorandum of terms" for the Niafarang Project. They wrote, "The team in Senegal have progressed with the continuing and complex negotiations with the various parties playing a role within the Casamance Province (in which the Niafarang project is located). These negotiations continue, and are in relation to seeking greater social acceptance of the Niafarang project, which has culminated in a memorandum of terms being reached between the community and Astron" (*Annual Report*, 2015, p. 12).

The "community" involved in the memorandum did not include Niafarang, but was instead focused instead on a small group of supporters in Kabadio, as described in Chapter 3. When asked why they thought that some people supported the project and had been involved in the memorandum process, responses by those opposed to the mine echoed something to the effect of: "their own interest" (Interview #61, 9 Mar 2016), "*Í lafta kodoo*" (they want money) (Interview #62, 10 Mar 2016), "*Í be lafiring kodoo*" (they're wanting money) (Interview #71, 11 Mar 2016), and just simply "money" (*kodoo*) (Interview #62, 10 March 2016; Interview # 69, 11 Mar 2016; Interview #70, 11 Mar 2016). Or, as one man claimed, "Those who are for it, it's to line their pockets" (Interview #65, 10 Mar 2016).

These discussions of what were collectively referred to as *achats de conscience* (buying consciences) critiqued individuals' self-interest. The individuals involved were perceived to be easily "bought," protecting their own interests rather than that of the population at large. As one woman said, "Those for it are against the village, and they'll remain at a distance and survive. They're just living for today" (Interview #68, 11 March 2016), and another commented that there was a problem because "we listen to the elders, but they're all getting paid off" (fieldnotes, 21 June

2016). Souley claimed that "they want to sell the village for wells, electricity, schools, and hospitals" (fieldnotes, 11 July 2015). These narratives focused on a generic "they"—an unnamed other, beyond the speaker, corrupted by the promise of money, who sold off the future in exchange for promised amenities. The amenities themselves—electricity, schools, hospitals, and wells—were nearly universally regarded in a positive light. It was their intersection with the Niafarang Project and their promise in *exchange* for mineral resources that made them a source of distrust and suspicion.

The mine's supporters were perceived as participating in a range of secretive exchanges, which fostered cronyism and non-consumptive, non-developmental uses. One elderly man in Kabadio hypothesized, "They just want money. And then in secret, they share it with the others" (Interview #70, 11 March 2016). Even more widespread, however, was criticism that the money would be used for individual enrichment rather than productive investment. This was linked in some iterations to stereotypes about the Mandinka. "I knew we'd lose Kabadio," said Souley one evening. "They're a conservative village. I'm Mandinka, I know the Mandinka. Whatever the elders say, everyone else goes along with it. The men don't work. It's the middle of the rainy season now… look at them, they're all sitting around drinking tea. That's why people get close to Mr. Thiaw, they go around with him, and they try to get the population to agree with them." Souley contrasted this stereotype about the Mandinka as conservative, hierarchical, and more interested in money than in labor with his view of the Jola: "The Jola cannot be bought" (fieldnotes, 14 June 2015).

In particular, this critique appeared as a rumor that the men involved were just going to purchase new wives, as a symbol of (unearned) status. One morning in June, Souley and I walked to the National Highway in Bandijikaky to catch a car to Kafountine. Under the thatch lean-to

where village residents waited on benches for the next car, Souley greeted Maam Fatu, one of the sisters of the *alikaali* in Kabadio. Our car arrived, and she boarded behind us, carrying a large plastic bin full of smaller wares. She sat next to Souley, on a bench at the hot and crowded back of the van. I greeted her, and she laughed at my elementary language skills. Then she turned to Souley, serious, speaking to him in an animated tone of frustration. Souley turned to me, translating from Mandinka. "She says she is against the mine, but women and youth can't speak up in Kabadio," he told me. "They handed out money to some of the villagers, but they haven't invested in anything or improved their houses. They've just gone to buy new wives" (fieldnotes, 26 June 2015).

At a meeting a couple days later, members of the Committee made similar accusations. We sat under a thatch roof, in Edith's compound, most of us reclining in narrow wooden palaver chairs (shaped like an upside-down cross, reclining on one of the short ends). The meeting had not yet started, as we were waiting for Mamadou to arrive.

"The state doesn't even know where the money's going, or how much is getting passed under the table," said Albert, always animated in his criticism of the mining project (fieldnotes, 28 June 2015).

"They've *sold* themselves," said Edith, speaking of the men in Kabadio who belonged to the "yes side."

"They aren't even getting that much," added Albert. "And they're not going to use it for anything productive—just for buying another wife!"

Souley, sitting next to me, looked at me and smiled. "You see, that's just what the woman the other day said!" Then, he said to the others, "Yes, it's not even millions they've received, but crumbs!" (a catchy and alliterative turn of phrase in French: "*Ce n'est pas les millions qu'ils ont reçus, c'est des miettes*"). The others chuckled.

The same conversation topic arose at another Committee meeting in July, this time between Mamadou and Daniel, a vocal opponent of the mine who worked as a carpenter and was active in the Committee. Daniel commented, "They just want to get more wives with that money."

"I know the men in that village [Kabadio]," said Mamadou. "A kid with nothing, yet he has three wives and ten children!" The group laughed, and Mamadou smirked at his joke, but remained serious.

"They don't do any work!" said Daniel. "It's their fathers who planted, and they live off of that without doing anything. They're the poorest ones, but they get more and more wives" (fieldnotes, 2 July 2015).

It was unclear whether money had in fact been distributed—some suggested that the money had instead been promised as a condition of getting the mine approved, and that the men were still waiting for it. Yet at the core, these rumors condemned those who were perceived to have acted in self-interest, rather than for the villages' development.

Corporate Sponsorship

Astron articulated much of its "support" for the community and its securing of local social acceptance through its sponsorship of sports teams. This occurred in two main ways: the company's donation of soccer jerseys and equipment to four local teams, and the televised and much-publicized financial commitment to the regional soccer association Casa Sports. I discuss each of these, and the controversies surrounding them, in turn.

In their 2015 Annual Report, Astron noted, "As part of the process [of securing social acceptance and obtaining a Small Mine License], Astron remains engaged with the local community including through sponsorship of four soccer teams in Casamance" (*Annual Report*, 2015, p. 13). The page includes a photograph of a group of men in Kabadio, near the mosque that

was then in a state of ongoing construction, who were holding up different-colored jerseys with the team names written on the back. One of them was also holding a soccer ball, and in front of them were three new red and white coolers. The men, many of whom I knew, looked at the camera with dour expressions. None of them was smiling (although this in itself is not uncommon in many Senegalese photographs).

I began hearing about the donated jerseys with "Astron" written along the sides, soccer balls, and coolers in September 2015, amid the Nawetane soccer matches among and between villages. These donations were destined for teams in Niafarang, Kouncoudiang (another nearby village), and two teams in Kabadio—one of which was Ibou's team, "Petit Dakar" (fieldnotes, 28 October 2015). Mohamadou recounted that Mr. Thiaw brought the jerseys to Kabadio. "There were these men in the village who kept saying Mr. Thiaw was a bad guy," said Mohamadou, "and then we found them meeting with him. Everyone was shocked" (fieldnotes, 4 September 2015). For his part, Mr. Thiaw distanced himself from the controversy: "Diop gave them the jerseys, but he had local accomplices, like Ibou and others. Ever since then, I've pulled back from dealing with these issues, I've kept myself at a distance, because my dignity and integrity don't allow me to engage in certain things" (Interview #37, 25 January 2016).

Mohamadou explained that in coming to Kabadio with the donated soccer equipment, "Carnegie" (Astron)[4] had admitted to him that they had gone about it incorrectly the first time, and that they should have gone through "*la grande porte*" (the front door)—namely, him and the Committee. "I'm not the Committee," he insisted, to me. "We are with the people, and if the people are for it, then we will reconsider" (fieldnotes, 28 October 2015). He continued, "All of the donated

[4] Village residents and members of the Committee normally referred to the company as Carnegie—the name of the initial exploration company, which also commissioned the environmental and social impact study—rather than Astron, the current project owner.

equipment is at the campsite. Mr. Thiaw and Carnegie can come and distribute them if they want, but I'm not going to do it." Mohamadou, other members of the Committee, and the youth in Kabadio thus reputedly blocked the distribution of the jerseys, protesting this obvious "*tentative de corruption*." Discussing Ibou's role in the donation, Mohamadou complained that the faction supporting the project were "willing to sacrifice an entire population just for their own interests" (fieldnotes, 28 October 2015).

In June 2017, numerous news sources in Senegal reported that Astron had signed a contract with the regional soccer club Casa Sports, for a 90 million fCFA commitment over a period of three years. The signing of the contract was televised and featured a panel of men clad in bright green caps and green Casa Sports coats, including Idrissa Diop. One announcer thanked Diop for his commitment to the project. All cited the company's commitment to "sustainable development."

Paap Sidy, a resident of Niafarang who was involved in village-level soccer leadership and organizing the Nawetane, explained his account of how the Casa Sports deal had come into play. "Ibou took advantage of his position as part of the youth association," said Paap Sidy. He recounted that Mr. Thiaw had been in communication with Ibou, and that the state administration had decided to let Ibou handle the Niafarang Project file. Ibou had reassured them that knew how to convince the village to approve the project.

"Astron even paid to send Ibou to Equatorial Guinea for a training program in mining negotiations," added Paap Sidy.[5] "I was in Kafountine at the time. Ibou called me first, and said, 'You're an intellectual, we're relatives, I want to work with you, we need to work together for the well-being of the village and for the project." Ibou had then asked Paap Sidy for the telephone

[5] If true, this is troubling for many reasons, not least of which is the highly undemocratic nature of mining negotiations and practices in Equatorial Guinea (see Appel, 2012).

numbers of Joe and of another village resident, Daouda, who was also involved with the youth association. Both men had been in the Karon Islands at the time. "Ibou said that Idrissa Diop was ready to invest through sports," recounted Paap Sidy. "Diop gave Ibou the soccer jerseys. Whenever he comes to Kabadio, he calls Ibou" (Interview #84, 22 September 2017).

Paap Sidy explained that Ibou had attempted to use the jerseys to garner support for the project; he had also declared that he had found a financier willing to fund sending the Kabadio soccer team to a match with a Thionk Essyl team, in Diouloulou. In fact, said Paap Sidy, the financier had agreed to fund the entire departmental phase of the Nawetane soccer games, to be held in Kabadio. The one problem, according to Paap Sidy, was that this generous financier turned out to be Astron.

Talla, the president of the main youth association in Kabadio, had also been the president of the Committee at the time. When he found out about Astron's involvement in funding the Nawetane, he and other Kabadio residents refused to proceed with Astron's money. They reclaimed the Nawetane planning from Ibou, and said they would organize the Diouloulou match and the rest of the season without him. In fact, said Paap Sidy, Talla donated a large chunk of his own money so as to be able to finance the program without support from Astron (Interview #84, 22 September 2017).

According to Paap Sidy, Ibou realized then that he had over-estimated his influence in his natal village, and was increasingly being menaced by the MFDC and opponents of the mining project. He turned toward his connections in Ziguinchor. These connections included Casa Sports, whom he brought into conversation and negotiation with Astron for the financing deal.

The Casa Sports deal was part of demonstrating the company's close relationship with local communities. But working with a regional organization with little direct influence on Niafarang

would have an extremely limited impact even on local soccer teams, much less on the community as a whole. It had even less relevance to the actual concerns of village residents, regarding environmental impacts or their material demands. Yet in the publicity surrounding the deal, these discrepancies and discords remained invisible—instead, Astron appeared as a generous benefactor.

Public Inquiry Survey

When I returned for a short return to the field in 2016, village residents told me about the "*enquête publique*" (public inquiry), which had taken the form of a survey. Astron used this exact language in their 2015 Annual Report, in the context of securing popular approval and obtaining the mining license: "With the memorandum of terms achieved between the community and Astron, Astron is busy with a public enquiry process, which is similar to the work completed to date and is ultimately required for social acceptance by the community and sign-off by Provincial Government Officials" (*Annual Report*, 2015, p. 12).

As it turned out, the MoU reached with residents of Kabadio did not hold up to the scrutiny of MEDD, given that it did not meet the public forum requirement for acceptance of the project (Interview #86, 25 September 2017). MEDD then suggested that an acceptable alternative to the public forum would be a public inquiry process that took the form of a survey. The governor of Ziguinchor sent a survey researcher to the district in 2016 to conduct surveys with individuals in Niafarang, Kabadio, and nearby villages.

Surveys and censuses have been interpreted as technologies of government, used to apprehend "the population" (Foucault, 2007; Scott, 1998). They make this possible through processes of standardization and aggregation that makes the population legible to those collecting or using this information, in the form of composites and statistics. In the process of accomplishing

this, the Niafarang Project public inquiry survey also produced overflowing distrust, divisiveness, and rumors of corruption.

When I spoke to Mohamadou about the survey, he recounted how he had become embroiled in the controversy surrounding it in Kabadio. He had been in Diouloulou for another meeting; upon his return, he found the women in his compound waiting angrily. They began a barrage of questions, accusing Mohamadou of promising village residents that if they told the researcher that they were in support of the project, they'd receive 10,000 fCFA (around $18). They demanded to know why he had not informed them of this, and why they had instead heard about it through others. "They promised 10,000 fCFA to the yes side before, too," complained Mohamadou, referring to events leading up to the MoU. "And they're still waiting for it!" Confused, Mohamadou reputedly denied these claims and went to others in the village to find out how this rumor—attributed to him—had spread (fieldnotes, 12 September 2016). He ascertained that a village leader, Abubakr, who was from one of the well-established families and who had repeatedly voiced his support for the project, had spread the rumor, encouraging residents to express support for the mine. According to his own account, Mohamadou then set out to correct the misinformation circulating in the village, and to confront Abubakr.

He explained further that the researcher commissioned to conduct the survey began telling other villages that the majority in Kabadio and Niafarang were for the project, and that they should follow these villages. Since residents of other villages often expressed their desire to side with Niafarang and Kabadio to avoid being on the losing side of the controversy, such "information" could have been very influential. Mohamadou also noted sardonically that even as the researcher compelled other villages to express affirmation for the mining project in this deceitful way, he

made a note in his final report accompanying the survey that there had been previous "*achats de conscience*," which partly explained some people's acceptance of the project.

Highlighting once again the dangers of division and individual action, Mohamadou continued, "They wanted me to come to Ziguinchor, alone, to meet with the Ministry of Mines. But I told them, 'I can't act on behalf of the village without the consent of the village. What you're asking me to do, to negotiate as an individual, is treason.' Ever since the problems with the MoU, all meetings and decisions have to go through the *alikaali*." Instead, he said, "I told them that the Ministry of Mines needs to come to the village and meet with everyone, all together" (fieldnotes, 12 September 2016).

Those who recounted the survey researcher's arrival in Niafarang were even more resistant to participating in the survey. Souley and Joe told me that the entire village had arrived in the village square to turn the surveyor away and send him out of the village. They rejected the survey process outright, out of concerns that their responses would be manipulated for political purposes. By participating, said Souley and Joe, they would have lost control over the message once their responses were recorded and transmitted to the governor. "Then we summoned him back," they recounted, laughing. "We told him that we would only respond as a group, not as individuals. And then we wrote a letter to the governor stating that we didn't want the mine. The researcher was humiliated!" (fieldnotes, 10 September 2016)

When the final survey report was submitted to the governor and to MEDD, it reportedly stated that 67 percent of the population supported the project—a clear majority. For MEDD, this survey was satisfactory as a form of public inquiry; it was also used in Astron's publications to demonstrate that it had obtained local approval.

In the meantime, Souley, Joe, and other Niafarang residents, were invited to MFDC commander Salif Sadio's hideout across the Gambian border. According to their account, the MFDC commander had telephoned Ibou, the survey researcher, and the mayor of Diouloulou to threaten them with reprisals as a result of their involvement in the survey and the mine's passage. Ever since, said Souley, Ibou had fallen silent about the mine.

The Overflowing Force of Corruption Talk, Exclusion, and Distrust

Amid the rumors of secretive attempts to bribe young men with jerseys, and older men with promises of money, village residents increasingly expressed distrust of one another. All private meetings or private exchanges—no matter for what purpose—were under suspicion, of some kind of surreptitious promise or transfer of money or favors in exchange for support.[6] For instance, Souley cast doubt on the integrity of Mohamadou, his fellow Committee member and friend, regarding events a year prior. Souley explained that Mohamadou had accepted money from Mr. Thiaw to organize the forum in Kabadio (to rent chairs, pay women from the village to prepare lunch, and deal with other logistical issues). The problem, according to Souley, was not that Mohamadou had accepted the money, but that he hadn't said anything and wasn't "transparent" about it. "I understand that he has problems getting the money to eat," said Souley, "and I have other things, but the Kabadio elders don't work and their campground isn't good," referring to the village-managed, French NGO-funded tourist campground that rarely had guests (fieldnotes, 19 January 2016). For Souley, generalized poverty and a lack of other options made the men in Kabadio particularly susceptible to taking (and hiding) money. Therefore, Souley was suspicious

[6] This is not uncommon in Senegal, given the dual and contradictory demands for discretion or privacy in money transfers, and suspicions about individual wealth, accrued through sorcery or other kinds of mystical dealings. The dualism between outward and public showing of monetary gift-gifting at events, and private, discreet ways of managing how to actually get the money to provide these gifts is discussed, for instance, by Beth Buggenhagen (2012, pp. 157, 198)

about Mohamadou because he took money from Mr. Thiaw without fully disclosing what had transpired.

Similar suspicions and distrust about "private" meetings arose in my own attempt to conduct a group interview in another village. At the village meeting that preceded what I had hoped would be a series of group interviews, I found myself seated next to Ousseynou, a man in his 40s whose wife lived in The Gambia and was expecting their first child. Slowly, around fifteen men trickled into the *alikaali*'s compound, and four women sat down some distance behind the circle, on a bench. They had large plastic basins in front of them and were cracking nuts into them. I offered my standard introduction and disclaimers about confidentiality and consent. Then I asked if it would be possible to speak with people in groups, such as women, youth, and notables, while others waited.

"Whom would you like to speak with first?" asked Ousseynou.

"The youths, I suppose," I responded, realizing that the more appropriate group to begin with would be the elders.

Translating into Jola, Ousseynou communicated my request to the assembled group. Some of the men raised objections, which I understood through tone rather than through the words themselves. Ousseynou turned to me. "They want to discuss it first," he said. The discussion that ensued featured hand gestures and loud, raised voices. The *alikaali* looked on, leaning back in his chair and watching listlessly. One man, who had introduced himself to me as a fellow "English speaker," began talking animatedly to the others, referring frequently to "Kabadio." Others joined in debate that continued for several minutes.

Finally, Ousseynou turned to me. "Some of the youth aren't here, nor all of the women, nor all of the notables. So we'd rather discuss as a group, and then if there's still time, we'll determine

among ourselves who will be in each of the smaller groups." I agreed to this proposition, though perplexed about what had transpired.

"Sing the National Anthem to get us started off!" joked the English speaker. Others laughed. Another man explained that while in the U.S. we might begin meetings with the National Anthem, traditionally all meetings in the village began with a prayer, each according to his or her own faith. So we all turned up our hands, palms facing to the sky, and lowered our heads toward the earth; then began the hum of men and women reciting prayers and verses.

Following the village discussion, when most residents had departed, I asked my research assistant, Malafi, and Ousseynou what had happened during the debate at the start. "What were they saying about Kabadio?" I asked.

"Oh, they were just talking about the issue with the jerseys, and other secretive meetings that created divisions there," said Malafi.

Ousseynou chimed in, "Yes, we've pulled back from the fight against the mine, because we realized some people in Kabadio and Niafarang were leaning toward the mine. So we weren't sure anymore who we were backing." He explained further that it was safer to be against the project when everyone was united against it, but the divisions in Kabadio—created through secretive meetings that in form very much resembled the groups I had proposed—made everyone distrustful. "Just yesterday," he continued, "a teacher from Kabadio came here for a meeting and was trying to convince us that the zircon mine is good for the development of the region" (fieldnotes, 21 November 2015).

My group interview proposition was thus deeply distrusted in a village where few people knew me, and was feared because of its strong resemblance to the "divide and conquer" strategies perceived to be occurring elsewhere. Village residents were quite willing to discuss the project and

their sentiments about it, but were adamant that this occur as a community, where everything would be heard and known, limiting the possibility of gossip and accusations of corruption.

Ironically, concerns about corruption and interest also blocked interactions aimed at greater public participation in mining, led by La Lumière, an organization linked with the international NGO Publish What You Pay and focused on transparency and accountability. A representative of La Lumière, Keebaa, convened a meeting in Kabadio in June 2015, along with Soxna, the director of an Ziguinchor-based organization dedicated to peace in Casamance. The two of them arrived with a report drafted by Keebaa, who had consulted various stakeholders in the Niafarang Project. Soxna commented that the governor believed that a majority of people supported the project. "Now, in front of all of you, I can see that that's not the case," she added. At this, a man I will call Nouha arose and announced that some people were indeed for the mine, and that some of the Committee members had changed their minds and now supported it. "I'm not saying that the majority are opposed to the project, either," clarified Soxna, "just that it's not a minority, as the governor believed." At this, other Committee members, including Mamadou, arose and yelled at Nouha, gesticulating and shouting across the open space under the trees. Another younger man in a red t-shirt stood up, coming to Nouha's defense and lunging toward the others. The President of the Committee called out, "Mamadou… Mamadou… Mamadou!" motioning for him to withdraw and be quiet. Soxna sat at the table across from the audience, calmly watching the vociferous debate. As the men quieted down and took their seats, the President addressed Soxna: "Our apologies for this, Madame." She waved her hand. "I'm used to it," she said (fieldnotes, 14 June 2015).

After this meeting and the obvious disruption it produced, Committee members were convinced that Nouha's outburst would demonstrate to Keebaa that the village did have support

for the mine. This also transformed how members of the Committee viewed public participation, and their concerns about the weaknesses that public disagreement posed for their movement. Over lunch—rice and bright red *cuu* (“*thiou*,” in French orthography), made with palm oil, served by village women in large metal bowls from which we all ate in groups—members of the Committee insisted that they should have limited the meeting just to themselves, rather than allowing anyone and everyone to voice an opinion. “The others should have only been allowed observer status,” said Mamadou to the other men. They were concerned that Nouha’s outburst had destabilized the sense of unified opposition they wanted to convey to outside observers.

They also became convinced that they could not trust Keebaa. As Souley told me, “Keebaa works for an NGO. And they need money from somewhere, right? Well maybe that money comes from Carnegie [Astron]!” (fieldnotes, 14 June 2015). As conversations about the possibilities of further engagement progressed within the Committee, its members refused to speak with Keebaa anymore. “He’s not a *facilitator*,” said Mamadou at a Committee meeting, in the sense of being an impartial mediator. “He’s here to *facilitate* the mine.” Edith added, “I’m no longer going to call them La Lumière [light; also knowledge or wisdom], but instead La Minière [mining]!” (fieldnotes, 1 July 2015). The leadership of the Committee thus viewed Keebaa as entangled with the mining company and the negotiations, possibly even receiving payment from Astron. Further engaging with him, and with discussions of “accountability” and “transparency,” they feared, would result in manipulation and be read as consenting to the mining project.

While Committee members pointed fingers at one another, the “yes side,” and La Lumière, for acting out of their own self-interest rather than for the general good, the Committee itself was also considered by some to be acting in its self-interest—thus invalidating their entire program. To illustrate this accusation, I draw on a particular vignette, from a day when I stopped by the small,

two-room home *cum* workshop of the village tailor, originally from The Gambia. I arrived in the afternoon, to find the tailor, Bacary, and his wife there with their young children. Soon Ismaila, an *alimamu* from Kabadio, arrived, sitting down on one of the palaver chairs at the entrance. "You're still here?" he asked me, smiling sardonically. He frequently asked me this, implying that I should finish up my research and leave. I went out Bacary's back door, where a pot of water was boiling on the small charcoal stove. Ismaila called out to me. "So, Aysha, what have you found out about the zircon?"

"It's a bit complicated," I said, returning into the workshop.

"No," he said, smirking, "it's complicated. Not a 'bit' complicated." I explained that there was a lot of conflicting information, and people weren't on the same page. He nodded in agreement. Bacary, who had always been outspoken against the mine, interjected, complaining that a private meeting was recently held among members of the Committee, in which, he suspected, they were no longer saying "*non*."

"But if you no longer say no, then you're saying yes!" exclaimed Ismaila. Out of curiosity and confusion about this new meeting, I asked some additional questions. As the men talked, I realized what meeting they were referring to. I explained that I had been in attendance, and that it had been a meeting about an entirely different environmental project, not involving the mining project. Ismaila interjected with a wave of his hand, dismissing my explanation, "No, no, Malik [a member of the Committee] is a thug [*voyou*]." Ismaila insisted that Malik wanted to get funding from the governor for his own projects, which was why he was being quiet about the mine. Bacary turned to me. "The leaders of the Committee have only been against the mine out of their own interest," he said.

This interaction illustrates that the suspicions triggered by closed-door meetings worked in both directions—in this case, suspicions targeted the Committee rather than the "yes side." In spite of Ismaila's accusation, I continued to try to clarify what the meeting had been about. I also knew, but did not voice, that Malik remained vehemently opposed to the mine. However, the perception of corruption and of manipulating the "population" for the protection of private interests withstood all my explanations. Every possible meeting was construed as being somehow about the mine, and meetings not open to all symbolized a *potential* for corruption and manipulation, even when none took place. In the discussion between Bacary and Ismaila, the pursuit of self-interest by members of the Committee—even for issues not at all connected to the mine—undermined their credibility.

"The Committee, now, is like the mafia," continued Bacary.

"The Committee!" scoffed Ismaila. "They're all bandits."

In a separate interview, Ibou similarly expressed distrust of the Committee and complained of the inability of village residents to speak out in support of the mine previously. He stated, "the most impacted [by the project] will be those who are on the dune, but there is 10,000 times more benefit for us than there is sacrifice for those who will be compensated. … Some people were for the project at the start, but they didn't dare say it out loud. Everyone has been misinformed by the Committee. We just wanted to open the door for discussion" (Interview #29, 11 July 2015). In these comments, several arguments emerged. First, the Committee's policing of consent—and the perception of consent as corrupt—was seen as having stymied dialogue about the project; second, resistance to the mine was seen as protecting private interests of landowners rather than community interests—the interests of the "population" that the Committee laboriously sought to create in opposition to the mine.

In Bacary's workshop, Ismaila and Bacary continued to gossip about the private meetings of the Committee. "They keep the *tubaabus* all to themselves, and they receive money and don't tell anyone," said Bacary. They also referenced a meeting held in Niafarang for which a founding member of the Committee received money, but no one ever heard anything about how much or from whom. Bacary complained about unclear financing for the Committee's marches—likely by *tubaabus*—as well.

"They're all just a bunch of bums [*clochards*]," added Ismaila. I asked if he was still against the project. "It depends on what is at stake," he responded. He explained that he had been to the governor's office a number of times, as well as the prefect's office and the sub-prefect's office. "They're going to mine it," he told Bacary. "They're definitely going to mine it, sooner or later. At least, there should be something in it for the community" (fieldnotes, 5 March 2016). This exchange echoed Ibou's view that the best possible avenue would be to ensure that the population would benefit from a mine seen as inevitable. Justifying his support for the mine, Ibou stated, "We can't do anything against the state, all we can do is try to negotiate to get a fair share." These views expressed a sense of pragmatism about the project—that as mining was inevitable, cooperation would allow for greater benefit for the population.

The discussion with Ismaila and Bacary was illustrative of a broader problematic—that of politics of the "right" side. I realized while conducting interviews that very few people would ever tell me directly that they were in support of the mine. My positionality, my association with members of the Committee, and the broader political terrain around the project (including state actors and the MFDC) all likely influenced the kinds of responses that village residents were willing to divulge. Ismaila's response—"it depends"—was consistent with this. Instead, many people hedged, leaving the door open to later claims to have aligned with the correct side. This

also allowed them to avoid any statements, private meetings, or behaviors that could encourage gossip and suspicion. This desire to remain on the "right" or "winning" side, theorized to me by some interlocutors through stereotypes about African politics, was *located* at that particular moment, with historical and place-specific roots in the context of the Casamance conflict. At the height of the conflict, being on the wrong side could get one killed or one's village attacked, by either the MFDC or state forces.

Those who openly supported the Niafarang Project became pariahs. Within the broader set of assumptions, accusations, and rumors about corruption, openly confessing to be on the "yes side" meant that one was simultaneously confessing to having accepted money (or the promise of money) and having acted in self-interest. Ibou was one of only a small handful of people who were openly and unequivocally in support of the mine (and he also spent most of the year in Ziguinchor, somewhat insulated from village drama).

Who was on the "yes side" was therefore ascertained through behavior, comments, and actions. Some individuals were widely "known" to be in support of the mine at one point in fieldwork, and then months later were "known" to be opposed to the mine. In 2014, Bacary himself had explained how some people were "known" to be for the mine:

> They try to divide us, some people can say yes, some people can say no. But the majority, they say no. Only a few people with their interests [have been paid off]. … They are in the villages but they don't want to show themselves, that they want this company to come. But they go through secretly to say [to] the governor. Only a few people. I can say we know a few, because we are together. When we say we don't want this, we have to come and meet, and then you don't come, how we can take you? We can take you as [complicit] because you're not with us, you're with others. (Interview #5, 26 August 2014)

In this context, many people "known" to support the mine were hesitant to admit it openly, whereas others claimed to have "no position," stating that they would simply "follow the state or the population" (fieldnotes, 4 August 2015).

It was also rare for village residents to name others who supported the mine. Many residents referred obliquely to "those who say yes," waving away my attempts to ascertain who this group was—particularly in Niafarang. In some cases, they did not know; in other cases, they "knew" but did not want to violate other cultural codes of conduct around discretion, or may have been concerned about my motivations in trying to learn this information. Dookulaabaa, for instance, told me, "You have been here, and you have been in Kabadio. You know who these people are, I don't need to tell you."

Throughout the process of securing the social license, divisions became more pronounced, both within Kabadio and between Niafarang and Kabadio (and other villages). According to Joe and to others, this was part of a "*politique de l'État*" (state policy) of divide and conquer (*diviser pour réussir*) (Interview #25, 16 June 2015; Interview #26, 26 June 2015). Residents of Kabadio also bemoaned the divisions that had been created around the Niafarang Project, viewing them as producing tensions that disrupted sociability and solidarity among neighbors, friends, and family members (Interview # 62, 10 March 2016). For instance, in the context of the donated jerseys, Mohamadou noted, "Now their tactic is to divide us. They're trying to organize meetings with only the *autochtones.* We need to resist this, and insist that if there's a village meeting, it involves the whole village" (fieldnotes, 28 October 2015).

To residents of Niafarang and other Jola villages, these divisions also harkened back to stories and experiences of earlier attempts to render Jola populations governable, first by the French and then by Senegal. In Joe's comments about state strategies of "divide and conquer," he noted that the state's creations of divisions in the villages around the Niafarang Project mirrored its rumored arming of the Mandinka with kalashnikovs in the 1990s, allowing violent inter-ethnic conflicts to do the work of crushing the MFDC rebellion for them (Interview #25, 16 June 2015;

fieldnotes, 28 October 2015). Joe noted that the Mandinka seized land and burned down Jola homes; in Khar Yalla, a neighborhood of Kafountine, and the village of Diannah, he said, the Mandinka had killed Jolas, burning some alive. “1992…” sighed Joe, remembering the height of the conflict. “1992 was bad.” He had fled to The Gambia during that time. Joe likened this history to the contemporary Niafarang Project negotiations. “That’s why the state is creating and working through these divisions in Kabadio,” he said, referring to the “yes side” that was working to get the mine approved.[7]

An MFDC representative in Kafountine also likened the Niafarang Project negotiations to divide and conquer strategies utilized by President Abdoulaye Wade in his negotiations about the conflict in the 2000s. Through what the representative described as “*achats de conscience,”* Wade offered handouts to certain groups to induce them to comply and cooperate. The result was a highly fragmented MFDC, with five separate and competing factions, occupying a range of political positions and degrees of militancy (Interview #26, 26 June 2015).

Following the meetings held in Kabadio, Salif Sadio’s radical, militant *Front Nord* (Northern Front)[8] faction within the MFDC issued a memorandum, which was sent to key Committee members and various village chiefs. The memorandum warned the communities that the MFDC

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[7] Niafarang residents also noted that under colonial rule, the French had installed Mandinka chiefs over the Jola villages north of Bignona, although this strategy failed in the areas south of the Casmance River (fieldnotes, 28 October 2015). The French installed village chiefs from northern Senegal (i.e. north of the Gambia River) to govern over recalcitrant Jola populations, whose social structure did not provide an easy foothold for French indirect rule through existing hierarchies (Boone, 2003, p. 107; Roche, 1985). As my friend Chérif told me, “The Mandinka are here, but they have always been behind the Jola in terms of number” (fieldnotes, 28 October 2015). Working through Nouha and Ibou and the elders in Kabadio, then, was interpreted in Niafarang as part of longer histories of their oppression by Mandinkas, installed by the French and armed by the independent Senegalese state to render the Jola a governable population.

[8] In 1992, the MFDC split into a radical, Jola-dominated *Front Sud*, which advocated militant action for independence, and the *Front Nord*, which was more moderate, multi-ethnic, and advocated for the upholding of conditions of a 1991 amnesty agreement, rather than for full independence. Though the commander of one of the *Front Nord* branches that emerged in the 2000s amid negotiations with then-President Abdoulaye Wade, Salif Sadio’s group was a radical, militant faction.

leadership was "closely following the hassles occurring in the shadows in Kabadio in favor of the mining—and therefore the theft—of zircon from Casamance, and we caution any person, country, organization, or business, no matter where they come from, that involve themselves in that theft. And we refuse in advance any responsibility of the MFDC for the serious consequences that will necessarily be unleashed."

In Niafarang, the letter came attached with a note, scrawled in red ink, addressed to the village chief:

> To the village chief of Niafarang:
> -Is it wise to want the area to be transformed into a war zone in the name of personal interests?
> -Especially since it is *haram* to go on a pilgrimage with dirty money

The note itself made little sense, demonstrating unfamiliarity with the specificities of the area—Niafarang's chief was not accused of accepting money himself, and the condemnation of something as *haram* would have little spiritual effect on him, as a Catholic. Nevertheless, the memorandum, distributed also to numerous other chiefs, did have the effect of putting the weight and might of the MFDC against Kabadio and further militarizing the divisions around the Niafarang Project. The threat of MFDC violence was a paradoxical result of attempts to make debate manageable through smaller, more compliant groups and to gain popular legitimacy for the project.

Overflowing debates and divisions also fed back into attempts to legitimize the public approval process. This occurred both through a series of public statements issued by the MFDC against the mine, as well as by the Committee's cultivation of relationships with representatives in the National Assembly. In televised debates and press conferences in 2017, the two representatives—both from Casamance—highlighted irregularities in the process and considered

the "approval" illegitimate. This pushed state actors to backtrack, and to resume negotiations with communities to develop a stronger basis for popular approval.

Conclusion

This chapter has thus aimed to show the overflowing force of rumor, and its disruptions of attempts by various actors to render popular approval or refusal a bounded, unified, and governable object. It has shown that distrust and division undermined both the Committee's claim to speak for the "population" and the claims by the Senegalese state, Idrissa Diop, and Astron to have secured "popular" approval for the mine. If nothing else, this overflowing has thus far kept the future of the mining project open and kept negotiations in process. This, I suggest, demonstrates the ways in which government is not an inevitability of domination, but an ambivalent relationship that is continually produced, reproduced, and reshaped.

As the hallmarks of Astron's social license to operate, the MoU, corporate sponsorship, and public inquiry process were used to indicate popular consent to the Niafarang Project, paving the way toward a mining license. As represented by Astron, these mechanisms demonstrated clear and unequivocal popular approval of the project—through a signed agreement with the "local community" and a majority of the population in support—reinforced by the corporation's social commitment to the locality, through the financial and material support of soccer teams.

However, as I have shown, each of these was the subject of rumor and accusations of corruption. These rumors were used to delegitimize the arguments used in support of the mine, feeding back into and disrupting the process, creating controversy around whether the Niafarang Project's approval had indeed been "popular." As debate, distrust, and doubt spilled beyond the confined encounters with particular groups, this pushed back against attempts by state actors, Idrissa Diop, and Astron to legitimize the social license to operate.

However, unprovable rumors are particularly tenuous when held up against documentation, such as the MoU, photographs of villagers with donated sports equipment, or the survey results. Whatever may have happened surrounding these tactics was invisible. Promises and transactions are deniable. Bribery, divide and conquer tactics, and other accusations remained local stories (even as they circulated through wider channels, undermining the legitimacy of popular approval). They demonstrate, however, that while states and corporations seek to obtain information and engage in ordering practices that make populations legible and governable, they also benefit a great deal from *not* knowing, *not* recording, and *not* governing—from letting conduct spiral out into multiple divisions, rumors, and distrust.

These developments pushed back against the social license, but they also disrupted the Committee's own attempts to present a unified front against the mine, introducing suspicion into its own midst. The Committee, too, held meetings perceived as exclusive. In the context of broader rumors and accusations, it could reasonably be suspected that some of the Committee members were not as wholeheartedly opposed to the mine as they claimed; perhaps, they too had begun engaging in secretive deals to secure their own private, individual goals.

At the core of the disagreement, on both sides, was the distinction between self-interest and the interest of the population. Those with whom one disagreed were described as acting for their own advancement, which was set in contrast to the speaker's own interest in the broader good of the people or the development of the region.

Postlude: "Then we will all be the ones to die"

On June 8, 2017, around the same time as the public announcement of the Casa Sports deal, Idrissa Diop arrived in Niafarang. He had come to express his condolences for the passing of the chief's mother. Daouda, one of the few people in the village who was believed to support the mining project, met Diop and some men from Kabadio at the village entrance, escorting them to the chief's house, where Diop offered 50,000 fCFA (about $90) to the chief as part of his expressions of regret for the chief's loss. Diop also took advantage of the occasion to visit Souley's house on the dune and inform him that he had received authorization for the mining project (Interview #84, 22 September 2017). Souley said that Diop had not produced or revealed the license at that time.

In early August, Diop arrived again in the village. He stopped in Kabadio to pick up a group of men there, and then they continued to Niafarang. They were also joined by a pickup belonging to Caritas Internationalis, an NGO focused on health and sanitation services. Caritas joined the group with the intention of prospecting for wells that their engineers would participate in drilling. Paap Sidy recounted this arrival of Diop and Caritas in the village:

"I was doing work at Jean Paul's house," he said, referring to one of the tubaabus who had constructed a house in the village. "At the end of the meeting there, I got a call. They told me that Diop was there, with three 4x4s in the village. Daouda also got a call but didn't know what to make of it." Paap Sidy had rushed back to the village, and youth from across the village stopped what they were doing and arrived in the village center.

A man nicknamed Maniouma ("honest," in Mandinka) had been by the sea when Diop arrived in August. "People had told us Diop had come and said he had his paper, but he didn't show it to anyone," said Maniouma. "All the villagers were in the rice fields. Paap Sidy called us

on the phone and said Diop had come with people from Kabadio to figure out where to start" (Interview #85, 23 September 2017).

According to Paap Sidy, once the villagers had assembled, they decided to telephone Souley, who was at home on the dune, and find out what to do. They determined that five of the men were to go find Diop, who had already driven ahead onto the dune. The large group of other villagers who remained blocked the road, preventing the other vehicles from accessing the dune (Interview #84, 22 September 2017).

Those who remained in the village argued with the men from Kabadio. Abubakr arrived then, on foot, from Kabadio. He was carrying a machete, according to Paap Sidy. When one man in Niafarang approached him, Abubakr pushed him away, and what ensued was what Paap Sidy referred to as a *"bataille entre civiles"* (battle among civilians). Maniouma confirmed this account, and said that they had yelled at the men trapped by the roadblock, "Who allowed him to come here?" (Interview #85, 23 September 2017). "Then, we insulted them," said Maniouma, in English (he traveled frequently to The Gambia and was often more comfortable speaking in English than in French).

"What did you say? How did you insult them?" I asked.

Maniouma smirked sheepishly, and responded in English: "We said, 'If you don't leave here, we'll fuck your asses.' And then Kabadio attacked our boys" (Interview #85, 23 September 2017).

He recounted that they had also confronted the bewildered Senegalese driver of the Caritas vehicle, an entrepreneur and engineer. "We told the driver, 'If you don't leave, we'll take all your clothes and beat you mercilessly'" (Interview #85, 23 September 2017). The Caritas driver, whom villagers generally agreed had no idea what he had gotten involved in, agreed to leave, calling

Diop to warn him about the conflict in the village. Maniouma and Paap Sidy said that Diop had left with Daouda (who had also been warned not to return to the village), taking the backroads down the dune to Abéné and then onto the National Highway. Diop reputedly called Souley and another member of the Committee en route and warned them that next time he would come in full force.

Maniouma explained that the whole affair had bypassed the alikaali of Kabadio, who was elsewhere that day. Upon finding out what had transpired, he came to Niafarang and congratulated the villagers on their resistance to Diop. The mayor reputedly convened a meeting with Mr. Thiaw to address the controversy, and the two of them issued a warning to Diop that he should not return to the area. The *Forum Civil*, a group concerned broadly with transparency and accountability, also reportedly came to the village to examine what had happened, and the CNCR arrived as well, under the impression that it was the population of Niafarang that had brandished weapons against others—a belief that unarmed Niafarang residents worked to dispel. “We thought the issue was over and resolved then,” said Maniouma (Interview #85, 23 September 2017).

But on August 18, 2017, in the middle of the *Nawetane* football matches in the villages, Diop arrived to Niafarang a third time. He was accompanied by a military envoy, which he had requested from the governor of Ziguinchor. Three tanks and two 4x4s passed through Kabadio in the morning, while all the youths were either playing or watching the match, and arrived in Niafarang at a time when all the women were out in their rice fields (Interview #84, 22 September 2017). “Everyone was away from the village, for the daily matches of the Nawetane,” recounted Paap Sidy. “They had the calendar, given to them by their local partners. So they knew” (Interview #84, 22 September 2017).

When they arrived, they found only Maniouma and Chérif in the village center. The two men rang the church bell, as for an emergency. Village residents trickled in from all corners of the village, having stopped their work. Alexandre, another village resident, recounted that he had been visiting friends in the neighborhood of Batanding, in the northern section of the village. "When I came back," he said, "people told me Diop had arrived. I found lots of people there, and the military" (Interview #82, 22 September 2017). Village residents described a lack of fear about the military presence. "We didn't even think about it," he said. People began to kick and hit the vehicles. Maniouma laughed recalling the scene. "It was men, women, and children—everyone!" (Interview #85, 23 September 2017) Vélo had been away at a funeral when Diop arrived. When she returned, she said, people told her that the whole village had come out to attack Diop. "I would have done something even worse than that," she said. "We will fight until the end of our lives" (Interview #81, 22 September 2017).

Under attack by unarmed villagers, the military officers were reputedly alarmed and unprepared to deal with the situation. "We had Jola relatives within the envoy, so we explained to them," recounted Paap Sidy. "They were unaware of the situation. That day was the inauguration celebration of a new brigade commander in Diouloulou, and no one knew what they had been sent for. The governor sent them, but they didn't know why or for what purpose" (Interview #84, 22 September 2017). When they called, according to Maniouma, the military officer had told the commander that the entire village was there, and that they said that they had already sent Diop away, before, and that he had come back. "What he's trying to bring to Niafarang, we don't want it," reiterated Maniouma. "If we see him again, we will kill him. He's trying to create conflict between the village and the army—it's dangerous" (Interview #85, 23 September 2017).

In Paap Sidy's account, after conversing with their commander, the military officers explained that they didn't come for this kind of mission, and that they had been called back to Diouloulou. The military tanks and 4x4s retreated, taking Diop with them. "Diop left, full of disappointment," recounted Paap Sidy (Interview #84, 22 September 2017). This parting, village residents hoped, would be the end of the Niafarang Project.

Of course, it was not. But after the events that transpired in the village, threats of MFDC reprisals, and a series of press conferences and televised debates between Diop and two members of the National Assembly opposed to the project, the Senegalese government agreed to return to the negotiating table about the mining license.

In Chérif's recounting of the military arrival on the dune, he said, his tone serious, "We told them, 'We will see today if that man is more Senegalese than us'" (fieldnotes, 22 September 2017). Maniouma expressed the same idea: "Because of one person, you will kill all of us? If you want it, then we will all be the ones to die" (Interview #85, 23 September 2017). The controversy was about more than the mine itself—it was also about the politics of life, death, and the meaning of citizenship amid extractive developmental futures in Senegal.

Conclusion: Overflows and the Production of Controversy in the Niafarang Project Negotiations

This dissertation has addressed how and why the Niafarang Project became entangled in controversies that have extended negotiations and delayed the awarding of a Small Mine License to Astron. I have argued that in this case, the technologies of power used toward mine approval—public participation, environmental impact assessment, and developmental promises—have been undermined by the productive excesses that they themselves create. Developed as a way of predicting, mitigating, and managing the social, political, and ecological effects of mining, these technologies allowed for the proliferation of other demands and critiques. In the process of negotiations, the small-scale mine came to encompass a variety of ongoing issues, including ethnic politics in the region, perceptions of cultural dominance by Senegal, community divisions and solidarities, and environmental change. The expertise, information, and participation that entered into the negotiations thus resulted in the production of excess, opening space for the articulation of other kinds of economic, ecological, and developmental demands through the bureaucratic processes designed to facilitate the mine.

I conceptualize of this process through overflow, which is instructive in two related senses. First, it captures the excess of community demands that proliferated out of the participatory process of mining negotiations, transforming the negotiations themselves from a routine bureaucratic operation to an avenue for a wider population to voice ongoing ecological concerns, experiences of economic marginalization, and political affiliations with the regional separatist movement in Casamance. Second, the idea of overflow reflects local anxieties about inundation and anticipated impacts of the mine on coastal erosion and saltwater intrusion, amid ongoing experiences of rising sea level. In the context of the mining negotiations, I have examined overflows of the

Environmental and Social Impact Assessment (Chapter 2), environmental understandings more generally (Chapter 3), public participation (Chapter 4), and state practices focused on decentralization and "dialogue" (Chapter 5). In Chapter 6, I have suggested that rumor and corruption talk overflowed attempts to restrict participation to smaller groups of people willing to approve the project, and that these overflows pushed back against the legitimacy of Astron's "social license to operate." A prelude, interlude, and postlude offered additional ethnographic details and stories that demonstrate the ongoing processes of exerting and challenging power around the Niafarang Project.

I have suggested that theories of governmental power often present this power as too totalizing; in tracing historical genealogies and *outcomes*, these approaches do not allow sufficient room for multiple contestations that not only push back against power but also shape what power *is*. Indeed, the technologies of power that I describe in this text are aspects of extractive development that emerged through many decades of interactions between states, societies, and corporations (Kirsch, 2014). The overflows that each produce encourage further reconstruction of the technology itself, in ways that may be progressive *or* regressive. In speaking back to theories of power, then, I suggest that governmental power is an ongoing and always incomplete process—and in that incompleteness is a space of action and hope.

Activists utilized strategies that Stuart Kirsch (2014) refers to as the "politics of space" and the "politics of time." In his assessment of the campaign against BHP Billiton in Papua New Guinea, he highlights that local groups tapped into and learned from translocal networks and linked localized struggles around mining to those of other places and peoples, allowing for the amplification of their struggle in wider arenas and key sites of power. Geographers and others have articulated similar processes in anti-mining (Haarstad & Fløysand, 2007; Muradian, Martinez-

Alier, & Correa, 2003), environmental justice (Kurtz, 2003; Towers, 2000), governance (Cohen & Bakker, 2014; Haarstad, 2014; Liverman, 2004), and social movements (Jones, 1998; Smith, 1992) through the lens of the politics of scale or jumping scale, which amplifies movements beyond the local. I have suggested that these have been important features in organizing and amplifying opposition to the mining project.

Similarly, activists and village residents utilized the "politics of time" (Kirsch, 2014) by anticipating potential impacts and intervening in the approvals stage of the process. Kirsch defines the politics of time as the targeting by activist groups of the period before any ground is broken, in order to prevent both negative environmental damages from mining (2014, p. 190) and the political lock-in that resulted from already entrenched mining investments. In Niafarang, local groups and their translocal networks intervened in the stage of the approvals process that focused on environmental sustainability and "sustainable" development, and on popular participation in decision-making. Significantly, the Niafarang Project was stalled in the environmental arm of the state bureaucracy, the Ministry of the Environment and Sustainable Development (MEDD). This occurred because the point of opposition targeted by the Committee Against Zircon Mining in Casamance was the stipulation in the Environmental Code of 2001 that environmental impact statements be validated by public forum prior to the approval of development projects. Successful and approved statements, stored and catalogued in the documentation center of MEDD, contained annexes full of signatures, by village chiefs and public forum participants. This seemingly simple step in the approvals process is where debate was generated, and where the project was stalled by popular disapproval about mining, rejection of the environmental impact statement's predictions of impacts, and broader contestations about what the role of the state was and should be.

The ability of the Committee and local residents to delay (or halt) the mine, by utilizing various overflows from the mining negotiations, is also place-specific. It has to do with a range of historical, geographical, and social contingencies that allowed the Committee to develop strong international networks, build awareness of other mining projects and their effects, and generate a sense of wider solidarities. Among these contingencies was the fact that the village of Niafarang enjoyed considerable eco-tourist interest and income, which was seen by many as a viable alternative—one that, unlike mining, upheld culturally and socially important livelihoods linked to rice production, mangrove products, and palm wine harvesting. Additionally, the controversy occurred against the backdrop of forty years of separatist conflict in Casamance. As I suggested in Chapter 4, an important "success" of the Committee was connecting the small-scale mine with the culturally and politically important imaginary of the Casamance region. Soliciting MFDC support, through indirect forms of solidarity and information-sharing about the potential reach of mining, the Committee enrolled the Niafarang Project into a broader narrative of Casamance's exploitation by northern Senegal, mobilizing the branches of the separatist Movement of Democratic Forces of Casamance to speak out and issue threats surrounding the mine. Given Senegal's commitment to retaining its reputation as a country governed democratically and peacefully, and its disinterest in being seen as responsible for re-igniting conflict in its southern region, the added leverage of the MFDC's opposition made state actors all the more unwilling to exert sovereign power over land and resources in the National Domain. Instead, as I showed in Chapter 5, they opted for a strategy of "dialogue" and sought to govern "alongside" rather than "above" the locality.

The particular approach to the politics of time deployed in Niafarang focused on producing an excess of environmental concerns and an excess of popular engagement, constantly demanding that the mining project take into consideration aspects seen by state actors and the environmental

consultant *cum* mining representative as superfluous to the project at hand. This strategy essentially rendered the Niafarang Project ungovernable—temporarily, but also over a significant period of time. This ungovernability hinged upon a series of unknowns that lurked at the edge of the project: Would it ultimately mine the entirety of the exploration license? Would its effects be localized to the coastal dune, or would they extend to the rice fields, to the villages, or, as some claimed, to as far as Sédhiou, 190 kilometers inland? Would the removal of HMS accelerate coastal erosion and the advance of the sea into village land and groundwater? What would ultimately be the benefits, if any, to the localities involved? These unknowns about the future of the village and the mine—and indeed, their inability to be accurately or accountably known or predicted, and therefore governed—is what compelled me to address the mining controversy through the lens of overflow and its challenges to government.

There are two additional categories of possible reasons for the project's failure to move forward as scheduled, which this work, by geographical focus and methodological design, cannot suitably address. The first is the negotiations made at the level of the national government. The Senegalese state certainly had its own interests in alternately slowing down or speeding up the signing of a mining agreement. For instance, my fieldwork occurred at a time when the national government was in the process of redrafting the Mining Code, with a set of stricter standards about the payment of royalties and taxes, and the establishment of funds for social projects and site rehabilitation that would be administered by local elected officials in mining districts (République du Sénégal, 2016). The mining license for the Niafarang Project, occurred after the passage of this revised code, in 2016. I cannot analyze where central state actors stood in their own roles for the mine's delay or approval, because my research was not sited in the offices of the state bureaucracy. Even with such a research model, it would have been very difficult (if not impossible) to have access to the

parliamentary and ministerial conversations where higher level strategic maneuvers were being formulated around mining in general or around the Niafarang Project in particular.

The second lacuna is the internal and external dynamics of the mining corporation, Astron. Astron had no local offices at the time of research, as they had reputedly pulled funding for the Dakar-based office maintained by Carnegie when they acquired the project in 2008; they did not reply to emails requesting interviews. The company is necessarily responsive to the demand and prices for zircon and titanium sands, particularly in the Chinese market that they primarily serve. Based on market trends, the company may have their own strategic concerns about whether to accelerate or delay breaking ground on the Niafarang Project, which my research design and access, again, does not allow me insight into. Further, they have been operating at a loss for a number of years, and seeking banks to finance the Niafarang Project—some of the delay may then have stemmed from their own internal financial difficulties. While important to consider, my study has focused instead on how these delays are managed on the ground, and how local residents, activists, and the state negotiated a controversial mining project.

But, one might ask, given that a mining license *was* ultimately signed, was the Committee's attempt to resist the mining project successful after all? I suggest that it was—not necessarily because it blocked the project outright or permanently, but because in extending and overflowing the negotiations, it allowed a range of other processes to happen. It received international attention for the case, and support from international researchers, lawyers, and journalists. It interrogated the findings of the EIES and the risks to local environments and livelihoods, pushing for a more thorough and objective report. It mobilized a range of actors in solidarity, who attended public forums and used these forums to not only critique the Niafarang Project but to demand "alternative" development investments, in the presence of state actors. And it tapped into long-

standing tensions in which many people demanded the right to be both Casamançais *and* Senegalese, entitled to the full range of rights they believed they should be accorded as citizens. Opposition was therefore fundamentally about keeping the future open (or rather, keeping multiple possible futures open), rather than closing it off. It is this approach that I have tried to mirror in writing this ethnography, an approach that sees governmental power and its overflows as a terrain of both struggle and hope.

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