Neoliberalism, gas and livelihoods in northern coastal Mozambique: a real-time analysis of the management of dissent

By

Joshua Shaw Dimon

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Environmental Science, Policy and Management

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Claudia Carr, Chair

Professor Kate O'Neill

Professor Elizabeth Deakin

Fall 2016

Abstract

Neoliberalism, gas and livelihoods in northern coastal Mozambique: a real-time analysis of the management of dissent
by
Joshua Shaw Dimon
Doctor of Philosophy Environmental Science, Policy and Management
University of California, Berkeley
Professor Claudia Carr, Chair

Oil exploration in the global south experienced a rapid upswing in the 2000s. Since 2000, the majority of new oil-producing states have been in the developing world. Eastern Africa, in particular, has experienced one of the most significant upsurges in oil and gas development. Starting in 2005, international oil companies embarked on a $500 million exploration program in northern Mozambique. The history of oil and gas development in the Global South, however, has more often than not been one of socio-environmental devastation, violence, expropriation and oppression. While oil and gas development has generated billions of dollars in revenue, producing countries suffer from a set of political and economic crises often referred to as the "resource curse," and a set of socio-environmental crises excluded from the predominant "resource curse" narrative.

This dissertation attempts to bridge these frameworks and extend them by conducting a sociohistoric analysis of authority and extraction in rural northern Mozambique through recent decades of neoliberal adjustments, and evaluating the institutions and policies guiding oil and gas exploration and its social and environmental impacts on local populations. Focusing on recent oil and gas exploration programs in northern, coastal Mozambique, this investigation proceeds by: 1) tracing the co-evolution of institutionalized rural authority and resource extraction from colonial through neoliberal adjustments; 2) evaluating the real-time, cumulative impacts to social and environmental systems resulting from oil and gas exploration considering already-existing livelihood stressors; and 3) identifying the mechanisms within the primary state-investor-community forum that operate to limit dissent and community reaction to these negative cumulative impacts--the environmental impact assessment (EIA) public participation meetings.

This thesis is dedicated to my wife, my father and my late grandmother,

my heart and soul

Acknowledgements

I would have never started or completed this thesis if it had not been for the undying support and mentorship my advisor, Claudia Carr, provided me. She inspired me to become engaged in this work and through endless conversations, debates, and years of collaborative research on these topics has likely contributed more to this analysis than I.

I must also thank Anabela Lemos and Daniel Ribeiro, two of the inspiring founders of JA! Justiça Ambiental, the small environmental justice organization in Mozambique that became my "dynamizing group". Their eternal commitment and courage to stand strong in the face of state and corporate threats to their lives is something to which I will always aspire.

Kate O'Neil was an endless source of ideas and literature. She is a walking library and has always made the time to discuss my work. Elizabeth Deakin was an absolutely invaluable support right when I needed it most in this process.

Friends and colleagues become blurred in this work, and there are plenty to whom I am in debt. Daniel Lavell was a great teaching colleague and writing lab partner, pushing me to progress faster than I otherwise would have. Eli Perszyk has at times had more faith in me than I have, and I am eternally grateful for his friendship. Thomas Azwell was both a coach and a friend through this process. Logan Hennessy began as my GSI, became a colleague and is now a friend. His mentorship and friendship are a great debt. Elizabeth Havice was likewise a great colleague, friend and inadvertent coach. Francisco "Chico" Pontual brought the energy to our lab group that kept me inspired. Sean Nazerali served as gatekeeper, then supporter, colleague and finally friend in Mozambique. Thank you for all the hospitality.

Jeff Romm pushed me to take on intellectual tasks beyond my comfort level, and I am eternally grateful. He has taught me to reframe my thinking when faced with analytic obstacles.

To culminate, I must thank all the fishermen, women fish collectors and farmers who provided the inspiration for this work and took time out of their busy days to share their experiences with me. I can only hope my continued work does justice to these time and energy debts and contributes to their struggles.

Table of Contents

INTRODUCTION

In the first decade of the 21st century, the developing world witnessed a dramatic expansion of greenfield oil and gas exploration activity due to the culmination of neoliberal structural adjustments facilitating foreign direct investments and the rapid increase in the price of oil triggered by the U.S. invasion of Iraq. From 2003 to 2007 – the years of the most rapid increases in the price of oil – worldwide exploration increased so much that the seismic vessels used for exploration had year-long waitlists.[1] A substantial portion of this exploration activity occurred in Africa, and in particular, the eastern side of the continent.

The discovery of oil in a country is generally heralded as a boon by states. It is one of the most valuable of the so-called natural endowments, and one that is more integrally tied to the global economy than any other. Expectations of wealth and development tend to follow the discovery, as do proud pronouncements about the advancement of the nation by both the state and the transnational institutions backing related projects. On the surface, these pronouncements accrete an implied legitimacy due to the vast amounts of currency flowing from the sale of oil to government coffers. Nigeria, for instance, has earned over $400 billion from the sale of crude since independence.

The façade created by these impressive revenue figures, however, belies the deep political, economic, social and ecological crises that have emerged from petro-development. These crises are most visible among the decaying farming and fishing livelihoods of the Niger Delta, northern Angola, the Ecuadorian Oriente, and other extraction sites that have been in operation for half a century. The Niger Delta has experienced somewhere between 4,000 and 10,000 oil spills, classification of which is depends upon the source and the scale of oil waste considered a "spill".[2] This oil sinks into the mangrove soils, flows slowly through the maze of deltaic river branches, and disrupted the endocrine systems (Okoji 2000) of both fish and people dependent upon the Delta environment (Okoji 2000; Ikporukpo 1983). The vast majority of gas associated with this oil production in the Delta is flared each year, the residue of which is much lamented for being the largest single-sector regional source of greenhouse gasses on the planet. More immediately devastating to the arable soil surrounding these wells is the sulfur returning to earth in rain as sulfuric acid, and un-combusted carbon particulates impacting the respiratory health of surrounding communities (Okonta and Douglas 2001). Fishermen pursuing their livelihood around the oil fields in northern Angola where oil development occurs offshore in deep waters, have likewise reported declines in catches in their communities over the decades of production (Reed 2008). In the Ecuadorian Oriente, communities surrounding oil wells and associated waste pits have significant increases in prevalence of cancers, and have similarly seen their fishing livelihood resources decline (Sawyer 2001).

[1] An oil company official in Mozambique during this period argued that the difficulty in scheduling a seismic ship for their exploration program was reason to disallow any major changes to the program as a result of the EIA process.

[2] See, for example, Uluocha & Okeke (2004), who estimate nearly 6,000 spills from 1976 to 1998.

From a macro-economic and political point of view, state dependence upon oil revenues for a large share of either GDP or government budget has been demonstrated to trigger political and economic crises including: decreased terms of trade for the non-extractive sectors (Corden 1982), decreased political incentives for productive investment in non-extractive sectors (Schatz 1984; Sachs and Warner 1995), enclave economies (Karl 1996), centralized political power (Ross 2001), and increased likelihood of civil war (Ross 2004; Le Billon 2004). "Resource curse" literature tends to focus exclusively on the impacts of oil revenues on national economies and governments, however, and as a result ignores the local social and environmental impacts of these developments, on the one hand, and the international political economy of the industry on the other. State-centric critics also tend to dust off their hands after placing the blame for the consequences of the "resource curse" at the feet of failed state institutions, without evaluating the historic origins of those institutions or the symbiosis between those institutions and the transnational corporations and international interests promoting extractive industries.

Literature on extractive industries and petro-states[3], in particular, tends to focus on regions with substantial histories of oil and gas development in order to evaluate the latter day impact of the production of oil at the macro-economic, macro-political, socioeconomic and environmental level. A macro view often misses the ways impacts arise, are reproduced, and are allowed to continue. A study of the origins of the institutions and the policies structuring the industry's operations, however, makes possible authentic, real-time tracking, by exposing the deeper structure framing impacts as developments evolve.

This dissertation attempts to fill that gap by analyzing the evolution of authority and extraction in rural northern Mozambique through recent decades of neoliberal adjustments, and evaluating the institutions and policies guiding seismic exploration programs alongside social and environmental impacts on local populations. Focusing on recent oil and gas exploration programs in northern, coastal Mozambique, this investigation proceeds by: 1) tracing the co-evolution of institutionalized rural authority and resource extraction from colonial through neoliberal adjustments; 2) evaluating the real-time, cumulative changes as impacts to social and environmental systems resulting from related oil and gas exploration programs; and 3) identifying the mechanisms within the primary state-investor-community[4] forum that operates to limit dissent and community reaction to these negative cumulative impacts--the environmental impact assessment (EIA) public participation meetings.

Methodologically, this research takes a primarily qualitative approach, using semi-structured interviews with fishermen, women fish collectors, community authorities, environmental consultants, government and international financial institution (IFI) officials, as well as NGO and corporate representatives. Participant observation of the multi-stakeholder public participation meetings for the EIAs provides first-hand data on real-time communication strategies, uses of rural authority, provision of information and reactions of community leaders and other invited "stakeholders" to the oil and gas exploration programs. These meetings afforded the opportunity to witness evolving relationships between community leaders, local government authorities,

[3] Petro-dependence varies in its definition in the literature, but is generally used to categorize countries that rely on revenues from the oil and gas industry for both a large share of their GDP and government budget.

[4] While the concept of a coherent "community" has been well dissected and challenged (see, for instance Agrawal 1999), the term will be used here as shorthand for everyone living within the jurisdictional boundary of a village.

environmental consultants and oil company representatives. Focus groups with community members were conducted to elucidate group dynamics and elicit responses from groups of community members not invited to the multi-stakeholder EIA meetings. Overall, this body of field research involved 130 interviews, 20 focus groups, and observations made at 6 meetings.

Interviews with government, consultant companies, oil companies, IFIs, NGOs and the leaders of communities were treated as key informant interviews and thus purposively or snowball sampled. With members of the broader communities at the sites of exploration programs, however, stratified random sampling was used to ensure a semi-random selection of fishermen and women fish collectors across relevant socioeconomic tiers within villages.

In addition to this field research, EIA drafts and final documents were analyzed in relation to the claims made in interviews and meetings by consultants, government officials, corporate representatives and community leaders . Ten of these EIA reports were coded and analyzed from the terms of reference through their final drafts. Qualitative coding was conducted to allow ease of searches for common concepts that emerged from the meetings and interviews.

The dissertation is organized into three articles which pull from the overlapping sets of data described above. The first article traces the co-evolution of decentralization and natural resource extraction in northern Mozambique in order to explain the current function of rural authority in pre-empting dissent towards oil and gas projects. The historical literature review which follows frames current interviews and participant observations both in communities affected by the recent rounds of oil and gas exploration, and with officials at the provincial and national capitals. Analysis of policy documents and legal frameworks of current neoliberal decentralization and investment policies allows comparison between the rhetoric of decentralization and its reality on the ground.

The second article is a real-time evaluation of the impacts of oil and gas exploration programs on rural, coastal livelihoods and marine environments along the northern coast of Mozambique. It overlays these impacts on an analysis of the pre-existing vulnerability of socioeconomic and environmental systems in this region. Building upon the analysis in the first article, it evaluates the role of institutions of rural authority in exacerbating these impacts and pre-empting response by those impacted. Shortly after three seismic programs, Interviews were conducted with government, corporate, and NGO representatives, as well as community leaders and members. The interviews were then triangulated with policy documents, EIA documents for the seismic programs, and the limited social and environmental peer-reviewed literature on the region.

The final article returns to the analysis of the results of neoliberal decentralization provided by the first article, and uses that to reveal the mechanisms through which the EIA process functions to pre-empt dissent arising from the social and environmental impacts found in the second article. To do this, it focuses on the "multi-stakeholder" EIA meetings held in the capital and district post sites of the projects, and clarifies how investor-government-community relations are managed within those meetings to minimize opposition to the project and maximize support. The article pulls data from participant observations at six of these multi-stakeholder meetings, but also includes interviews with government officials, representatives of corporations and NGOs, community leaders present in the meetings, and fishermen and women fish collectors who never received an invitation.

As I have been writing this dissertation, relationships among the communities, government and oil companies at the sites of a future liquid natural gas plant (LNG), which will be one of the largest in the world, have continued to evolve. Some of the oil and gas-attendant crises noted above are already emerging in Mozambique. The government has mortgaged future gas revenues against large, opaque non-concessional debt from Credit Suisse and VTB. The resurgence in conflict between the two sides in the civil war that officially ended in 1992 has been driven in part by the losing side's demand for a greater share in the gas subcontracts. At the same time, community members living near the sites of the future LNG plant are also beginning to voice challenges to the project and are demanding free, prior and informed consent, suggesting that the project to use the EIA to pre-empt dissent is both incomplete and poorly conceived. There are several possible paths forward, given both the analysis in the articles here and the evolving situation on the ground.

CO-EVOLUTION OF DECENTRALIZATION AND EXTRACTION IN NORTHERN MOZAMBIQUE

INTRODUCTION

Among the coastal communities onshore from the new giant offshore gas fields of northern Mozambique, the state and international oil companies are employing rural authorities to pre-empt and quell dissent which might limit gas exploration and production. These authorities have been re-empowered by post-war neoliberal decentralization programs that began in the 1990s. Much as neoliberal policy shifts at the nation-state level have re-oriented the state towards facilitation of foreign direct investment (FDI)[5], at the micro level of rural villages, rural institutions of the state have also been re-oriented to facilitate FDI at the sites of investment programs. While not all of those registered as new community authorities were authorities under the Portuguese, their empowerment under neoliberal decentralization programs included a re-instatement of many of the same responsibilities to the state that *regulos*[6] held under colonial indirect rule in service to colonial political economy (West and Kloeck-Jenson 1999; Buur and Kyed 2006).

In an ex-post evaluation of the traditional authority component of a USAID decentralization project in Mozambique in the mid-1990s, representatives of the Ministry of State Administration USIAD project managers, and the District Administrators applauded rural authorities who stated they wanted to return to the labor-mobilizing, tax collecting and disrespect-disciplining functions they held under the colonial regime (Fry 1997, cited in West and Kloeck-Jenson 1999). Mamdani argues that the legacy of colonial and post-colonial decentralization policies has served to fragment dissent (1996: 3). To understand how contemporary rural authority in northern coastal Mozambique functions to pre-empt dissent surrounding emergent environmental and social problems associated with gas exploration and development, this article traces the co-evolution of these policies through the legacies of colonial and post-colonial resource extraction and then analyzes current rural authority-community-investor relations through the themes revealed by this historic lens.

Since the beginning of indirect rule by the Portuguese colonizers in Mozambique, decentralization policies have co-evolved with the changing needs of labor, land and resource extraction. The history of decentralization in Mozambique is thus a history of the local implementation mechanisms of foreign extraction, with a brief interlude after independence when the independence movement, Frelimo, attempted to re-orient the extraction of rural labor

[5] For Mozambique specifically, see for example: Hanlon (1990, 2005), West (2009), Abrahammson and Nilsson (1995); Pitcher (1996), Söderbaum and Taylor (2001)

[6] The highest level of indirect authority under Portuguese colonial rule. *Regulos* were generally in charge of a large number of settlements.

and resources towards the service of the nation rather than foreign interests. The northern coast has a long history of this extraction as the initial trade and administrative port for the Portuguese.

Table 1. The Changing Same: Institutional stability of rural authorities at the district level and below from colonialism to today

	Pre-Colonial	**Colonial**	**Frelimo: Marx-Leninist**	**Frelimo: Neoliberal**	**Frelimo: Late Neoliberal**
"State Authorities[7]"		District Administrator Head of Administrative Post	District Administrator Secretary of Administrative Post Secretary of Locality/ Council Secretary of Neighborhood/Quadrao[8]/ Council	District Administrator Head of Administrative Post	District Administrator Head of Administrative Post
Informal State Authorities[9]				Secretary of Locality Secretary of Neighborhood/Quadrao	
"Traditional Authorities"[10]	Lineage Head[11] Settlement Head	*Regulo* *Capitao-mor/ Chefe do Groupo* *Wajiri* (settlement head)/ Chefe do Povoação			Secretary of Locality; Regulo Secretary of Neighborhood[12]; Regulo; Religious Leader; Community Leader/ Consultative Councils

[7] Authorities directly appointed by the central administration with no traditional ties to the regions they were administering (e.g. Portuguese administrators under colonial rule, Frelimo party appointees under early Frelimo administration)

[8] Some secretaries were old Regulos if it was more convenient for Frelimo to work with existing authorities rather than shuffle them as they did in most places (West and Kloeck-Jenson 1999)

[9] During the initial years of the neoliberal era (late 1980s and 1990s), there was no formal recognition of the old Frelimo secretaries although, informally, they continued to exist and provide state functions (Buur and Kyed 2006).

[10] "Traditional Authorities" is in quotes here to indicate ambivalence, at least. While there were pre-colonial rural authorities legitimate to the populations they oversaw, and there may have been some through the colonial, post-colonial and neoliberal eras, this legitimacy is rarer, less complete and messier in later eras.

[11] The lineage head emerged as an authority over larger jurisdictions in northern Mozambique after people started concentrating into larger settlements to protect themselves against slave raids (West 2005).

[12] Which of these was registered as the primary authority in a village was contingent upon the Frelimo and Renamo politics of the area, so along the northern coast, most of these positions were filled by the former Frelimo Neighborhood Secretaries (Buur and Kyed 2006).

The system of authority becomes increasingly sophisticated as it evolves, yet the legacy of functional control it provides remains the same despite significant shifts in the national political economy. The marks each of these phases have left on the legacy of "decentralized despotism," as Mamdani (1996:8) names it, encodes the mechanisms by which current structures of rural authority along the northern coast of Mozambique serve to preempt and fragment dissent in the face of the environmental and social impacts of oil and gas exploration.

COLONIAL INDIRECT RULE

Table One demonstrates the surprising immutability of the patterns of indirect rule that were intimately tied to the foreign extraction of people, labor, land and resources. Prior to this extraction economy, rural authority served the internal needs of the settlements it served. With colonialism, authority was restructured to serve external needs.

Prior to colonization, most of the peoples comprising present-day northern Mozambique engaged in agro-pastoral and agro-fishing livelihoods with diversified survival strategies to cope with seasonal variability in climate (Vail and White 1980). The 'authority' recognized in rural northern Mozambique at this time was that of the settlement head, particularly among the Makonde (West 2005). While the coastal Mwani were likely far more integrated into the trading networks of the Kilwa sultanate, these societies largely functioned this way as well at the village level (Newitt 1995). This localized authority structure served the needs of the dispersed, small villages that settled the northern Mozambican coast and interior. Maluane cloth, silks and cotton were woven and dyed with locally grown indigo, and comprised a major part of trade with the Kilwa sultanate. The sultanates dominating the trade in these textiles in the north operated more through traders than formalized local authority or administration until the advent of the slave trade.

With the advent of the slave trade in the early 16th century, the dispersed interior settlements became easy targets for slave raids, and no longer functioned to enable the social reproduction of rural livelihoods. Villages increasingly concentrated into larger, more fortified settlements to defend against slave raids, and additional authority systems emerged (Newitt 1995: 253). For the Makonde, the *humu*, which was the matrilineal lineage head, emerged in addition to the already existing settlement heads, or *vanang'olo vene kaja* (West 2005). Some of these interior settlements managed to hold off Portuguese incursion until the early 20th century (West and Kloeck-Jenson 1999).

Coastal settlements, however, were the first to be either enslaved or coerced into raiding interior communities for slaves. Many of the larger coastal settlements became more formalized intermediaries between the Portuguese and the Mwani, Makonde, Makua and interior nations. The fragmentation of lives, families and communities that resulted redefined social relationships in the north and, along the coast, was the first major de-legitimation of traditional authorities involved in the slave trade.

Along the northern coast, and in particular on the islands, also beginning in the late 16th century, Portugal granted *prazos*, estates offered as court-ordered dowries to "orphaned daughters of royal servants and of noblemen or to destitute widows of court officials under contracts of emphyteusis." (Vail and White, 1980: 8). These granted exclusive property rights for the period of three female generations. The *prazo* holder had to pay a quitrent (*foro*) and an ecclesiastical tithe (*dizimo*), but could extract an annual levy from the indigenous population. By the end of the 16th century, almost every inhabitable island in the Quirimbas chain had a Portuguese *senhor* who collected tribute from the island residents (Newitt 1995: 190).

The Quirimbas Islands became a center of this slave trade, and thus a locus of formal and informal Portuguese administration second only to Mozambique Island to the south. By the beginning of the 17th century there was a fortified settlement on Ibo. By mid century the islands had become a major food supplier to the formal Portuguese administration on Mozambique Island, providing meat, millet, rice, beans and palm products, which the *senhores* sent to Mozambique island as quitrents for their leases (Newitt 1995: 190).

With the increasing Portuguese economic reliance on the region came political power. The Quirimbas islands *prazos* were predominantly run by two families that may have been responsible for driving the illegal slave trade with the French in the mid 18th century from the islands (Newitt 1995: 191). One of these families held such a sway over Quisiva and the adjacent mainland communities that it was reported they likely appointed the chiefs for the communities (Nogueira de Andrade 1789: 123, quoted in Newitt 1995: 192). This is one of the first reported instances of indirect rule and manipulation of traditional authority by the Portuguese in Mozambique.

The end of the 19th century marked the transition away from the slave trade and towards internal forced labor for cotton concessions, and the attendant systems of authority required for this new system. While the illegal slave trade declined through the 19th century, with the end of the American civil war, Europe faced a major cotton shortage and thus turned to the colonies to fill the gap. In northern Mozambique, Portugal attempted to fill this gap at the end of the 19th century by granting large cotton concessions to two British companies, The Mozambique Company and the Niassa Company. Niassa Company controlled the vast majority of the northern Mozambican territory. From the granting of these concessions until the end of the Portuguese Monarchy in 1924, these British companies were the de-facto administrators of these territories.

With resistance to the continued illegal slave trade growing among communities and settlement and lineage heads, many of these leaders were deported from Mozambique at the end of the 19th century. The colonial administrators then set about creating a class of "elite" chiefs or *regulos* which would serve their purposes.(Vail and White 1980: 307) This was initiated first through incentives to the chiefs who assisted the cotton concessionaires. Eventually chiefs who assisted in the recruitment of people for the cotton concessions were paid a small salary and given a recruitment fee.

In 1926, the fascist coup in Portugal which put Antonio Salazar in office, also nationalized the *Prazo,* or private plantation estate system. This established direct Portuguese rule for the first

time in Mozambique, and was the beginning of formal administrative colonization (Chilcote 1967, Vail and White 1980).

With the advent of more formalized Portuguese administration in northern Mozambique in the early 20th century, and the continuing labor needs of the cotton concessions, the Portuguese formalized the tiered system of rural authority that concession holders had used. This included the *regulo*, the lowest level official the Portuguese dealt with directly, and who was appointed by the Portuguese to be the highest level of the local authorities; the *capitão-mor,* who was selected by the Portuguese from among the various settlement heads and responsible for several other settlement heads; and the *wajiri*[13], which was the name the Portuguese gave to the *nang'olo mwene kaya*, or individual settlement heads (West and Kloeck-Jenson 1999: 470). These patterns were largely replicated throughout the rest of the country, replacing existing tiered authority systems or creating them where they did not exist (West and Kloeck-Jenson 1999: 471).

Two decrees of 1933, the Imperial Organic Charter, and the Overseas Administration Reform Act both formalized the principles already laid down in the Colonial Act of 1930: all rights of governing reverted to the Portuguese State; no company could collect taxes, coin money, set up customs barriers, or maintain its own police force; and the colony would be divided into councils and circumscriptions, each with a central administration and several area posts (Vail and White 1980: 246). This solidified the three-tiered system of indirect rule in rural Mozambique (Dinerman 2004: 94). This change also required the Portuguese colonial administration to take charge of labor recruitment for the cotton plantations, again re-enforcing their use of the three-tiered system of indirect rule.

With the nationalization of the *prazo* system in the North, Salazar mandated cotton production in 1936 to supply the Portuguese textile industry (which had been importing nearly 100% of its cotton from foreign suppliers). Due to the rapid expansion of the Portuguese textile industry during the last two decades of the 19th century (the number of spindles doubled and looms increased by a factor of 10), Portugal had been trying to generate greater cotton production in the colonies (Isaacman and Chilundo 1995). In 1941 Salazar mandated compulsory rice production as well. Under these policies, each "able" male was required to grow one hectare of cotton or one hectare of rice, while women were required to grow half a hectare (Vail and White 1980). The state gave parcels of land to 'concessionaires' who then were charged with hiring growers and buying the harvested cotton and rice (at half the market value for cotton as it was being used to subsidize the Portuguese Textile Industry). The North eventually became the primary cotton producing region of the country (Bowen 2000). The colonial administration opted for increased production through increased land under cultivation, granting large tracts of land to cotton concessionaires in the North, predominantly to four companies: Sociedad Algodeira do Niassa; Sociedad Agricola Algodoeira; João Ferreira dos Santos; and Companhia dos Algodões de Moçambique (Isaacman 1997), which were financed for the most part by Portuguese Banks (Pitcher 1995). This reveals the strong political as well as economic ties the new cotton industry of Mozambique held with Salazar (occasionally trumping the interests of textile importers).

[13] These tiers were later referred to as *Regulo, Chefe do Groupo and Chefe do Povoacao*, terms that were re-awakened in the 1990s and 2000s with the neoliberal decentralization programs.

In close succession to the elimination of the *prazo* system, Salazar redefined, at least on paper, the labor relations in Mozambique. The 1930 Labor Code ending forced labor and Circular 818/D-4 of 1942 signaling the return of forced labor were two of the contradictory labor policies symbolic of the tension-ridden dialectic between international forces, Portugal's industrialization, and local African resistance. The Labor Code of 1930 replaced forced labor with "tax-mobilized" labor, which actually increased the work burden because workers had to work for three months out of a six month contract to pay their taxes, while forced labor had only required two weeks of labor per year (Vail and White 1980). Loopholes in the law, however, led to a general continuation of forced labor. For instance, clauses about vagrancy defined anyone not able to show proof of any type of work as a vagrant, punishable with forced labor for the state. Subsistence agricultural and fishing was not considered labor, and thus would be considered vagrancy. Tax default also led to forced labor requirements.

The 1942 Circular stated that every able bodied African male in Mozambique was required to show proof they had "gainful" employment for at least 6 months of every year. If they could not demonstrate this they were forced into servitude for the state. The law was implemented in the early 1940s because the mandatory cotton and rice growing created labor shortages for many of the company plantations. The primary difference in results between the two laws was that the 1942 Circular ended the use of private labor "recruiters" and placed this responsibility more formally in the hands of the colonial administration ensuring an adequate labor supply for cotton and rice, and thereby embedded the tiered indirect rule further within administrative priorities in the north.

After the 1942 circular, "an administrator was expected to collect 100% of local taxes, supervise closely the compulsory cotton growing scheme, ensure all eligible males completed six months of work a year, see that public works were improved and developed through use of forced labor, and demonstrate that people were not running away from the circumscription."(Vail and White 1980: 298). From 1945 onwards, administrators and chefes do posto submitted quarterly reports on working conditions at the plantations within their circumscriptions(Vail and White 1980: 328). In 1948 chiefs were granted a monthly salary of 350 esc. "Unsatisfactory" chiefs were eliminated (672 chieftaincies and 1747 headmanships abolished in Quelimane District, for example, leaving 388 chiefs and 1089 headmen) (Vail and White 1980: 307). The dismissal of chiefs who did not cooperate with the Portuguese continued into the early 1950s. Those that did cooperate were paid to collect taxes (a fixed percentage of the tax they collected). In 1950 the chiefs were allowed to retain 40% of the 25esc. recruitment tax on all workers contracted from their areas (Vail and White 1980: 308).

The scale of the cotton export system in Mozambique required a huge amount of labor and thus a substantial amount of recruitment work by the new *regulos*. In 1942 it took over 500,000 growers cultivating 230,000 hectares throughout Mozambique to produce the 11,500 tons of cotton that were exported to Portugal in 1942.(Vail and White 1980: 279). Mozambique's cotton production reached 11,500 tons by the early 1940s, composing nearly 22% of Portugal's total cotton imports (Vail and White 1980: 275). By 1945, more than 1 million farmers across Portugal's African colonies were producing all of Portugal's cotton (Isaacman and Isaacman 1983: 45).

The Portuguese Administrator of Mozambique, Caetano, spoke publicly against forced labor in 1945, and there was a policy shift towards "incentive" based cotton production in 1946. Nonetheless, by 1956 five hundred thousand Mozambicans were *forced* to produce cotton, making about $11.17 for the whole year's crop (de Sousa Ferreira 1974). Cotton production required up to 66% more labor than traditional food crops of maize, sorghum, millet, beans or peanuts (Isaacman 1997). Not only were brutal methods used to get the maximum yield from the growers, but the cotton and rice displaced the subsistence food crops that the Mozambican peasants had been growing, and contributed to a large number of famines during the 1940s and 1950s (Vail and White 1980). Changing entire food systems, the political economy of extraction encouraged the shift from more diverse and protein rich but labor intensive crops to carbohydrate rich but nutrient poor and non-labor intensive crops, such as Cassava (Mamdani 1996: 162).

Mozambican responses to the resulting food pressures often included the intercropping of cotton with food, or simply splitting labor time between food and cotton production. However, in attempts to increase the productivity of Mozambican cotton growers, the administration "rationalized" the cotton industry, removing cotton growing labor from the villages to specially designated cotton producing areas generally located far from most of the grower's homes. As a result, the burden of food production fell on women (Pitcher 1995).

With the elimination of the forced labor system in 1961, many Mozambicans switched to crops which would bring a higher price at the markets, or tried to find wage work in the cities. However, few of those forced to grow cotton completely switched back to subsistence food crop cultivation (O'Laughlin 2002). Instead, Portuguese policies were switching, inadvertently or not, from the neo-mercantilist policies of the 40s and 50s to capitalist production, and the Mozambican peasantry was increasingly subjected to global markets.

> "What forced labor, and resistance to it, achieved in Mozambique was to make production of commodities a necessary part of rural livelihoods, to tie rural livelihoods to global market movements, to make labour-power a commodity that was routinely bought and sold in diverse ways, and to give those who had capital the capacity to exploit." (O'Laughlen 2002).

While forced labor was eliminated in law, however, the Portuguese assumptions that Mozambican labor was (or should be) free continued to permeate social relations after 1961. Fishermen on Ibo, where the colonial administration had a strong presence along the coast, noted in interviews that in the 1960s and 70s, carrying around too much money was seen as suspicious by the Portuguese, who would often take the money and arrest the fishermen, despite the fact that the fishermen had been paid by the Portuguese fish company on the island.[14]

By the 1960s, liberation struggles across Africa were unstoppable, and the liberation movement in Mozambique, Frelimo, was formally constituted in 1964 and began to liberate settlements in the north by the late 1960s. Two of the principle policies Portugal implemented in Mozambique

[14] Interviews with fishermen on Ibo were conducted in 2008, and many of the elder fishermen talked about fishing for a colonial fish company.

to counter the growing administrative loss of control over the Mozambican populace were the increase in subsidies for Portuguese settlers and the creation of the *aldeamento* system to concentrate Mozambican farmers into communities for ease of political and economic control (Coelho 1998). The new settlers were given large amounts of the best agricultural land, dispossessing large numbers of people with a few farms (Pitcher 1995). This often involved the land which the administration had used for forced cotton production in the North--predominantly smallholdings.

The creation of the first *aldeamentos*, or collective farming villages, in 1968 was intended to not only maintain control over rural populations, but to prevent collaboration of rural communities with the liberation fighters (Coelho 1998). It was a last attempt to retain some level of control over the rural areas of the country that were rapidly slipping into the liberation struggle. This policy entailed forcibly moving peasants from their dispersed villages into large centralized "villages" surrounded by barbed wire and patrolled by Portuguese officers. By 1972 the colonial administrators of Cabo Delgado claimed that over 400,000 people had been moved into these *aldeamentos* (Munslow 1983: 121).

Along with the Portuguese massacre of Mozambican civilians at Mueda in 1960, the creation of the *aledeamentos* may have served to create concentrated fora for the collective grievances of the Mozambican population. After independence, Frelimo would continue to use these concentrated village structures to foster revolutionary education and exchange for the "New Mozambique".

REVOLUTIONARY PROGRAMS

> "We don't accept any institution of the Portuguese colonialists. We are not interested in the preservation of any of the structures of the colonial state. It is our opinion that it is necessary to totally destroy, to break, to reduce to ash all aspects of the colonial state in our country in order to make everything possible for our people." - Amilcar Cabral

Upon independence, Frelimo was faced with a contradiction between their revolutionary goals and the need to respond to the dire reality of an independent country still entangled in colonial trade and debt relationships. On the one hand, the institutions of the Portuguese were designed to serve foreign interests and exploit Mozambicans, and thus needed to be eliminated. On the other hand, to implement Frelimo's programs in the new Mozambique, they needed sources of income, and thus had to rely on the same export crops the Portuguese had. Additionally, the concentrated populations that had served the extractive interests of the Portuguese could also serve the revolutionary education and politicization goals of Frelimo. Frelimo was thus faced with a delicate balancing act at independence between dismantling and re-creating the exploitative institutions of the past.

Eduardo Mondlane, the first leader of Frelimo, studied with the leader of the independence struggle in Guinea, Amilcar Cabral, and shared many of the same ideas about the necessity of breaking with the institutions of the Portuguese. Starting during the revolutionary war, Cabral

argued that close collaboration of liberation guerrillas and rural communities would break down "tribal" identities and create a "national consciousness" (Kofi 1981: 857-858). Mondlane, and later Samora Machel, similarly argued that "tribal" identities needed to be replaced with a national identity (Mondlane 1969). They also recognized that "traditional" authorities in places that had been exposed to Portuguese administration were a part of colonial indirect rule. As a result, one of the first acts in liberated areas in northern Mozambique was to replace the Portuguese-appointed or supported three-tiered system of indirect rule--*regulos*, *chefes do groupo* and *chefes do povoações*--with elected community councils, which became the Frelimo cells for the area. Frelimo's early rural programs were thus aimed at establishing a new Mozambican revolutionary identity, breaking with the systems of authority the colonizers had used for centuries to facilitate extraction of people, labor and resources. Frelimo set about creating a model of rural authority based on councils, elected by the local communities they represented.

Frelimo created three structures to lead the transformation away from the exploitative colonial past: Dynamizing Groups, People's Assemblies, and Councils for Production. To fundamentally break with the colonial past, Frelimo not only set about establishing equality and popular rule, but also built the political capacity of the populace to participate in decision-making within their communities and contribute to the *New Mozambique* (Mondlane 1969; Lappé and Beccar-Varela 1980). A big part of this process involved the creation of dynamizing groups within all other institutions. These groups were chosen among peers of a particular group (e.g. from among the members of a village council, a cooperative, the ministry of education, etc.), and held study groups and meetings to build internal capacity to move forward with their action plans. These groups were created in everything from the village councils to the Ministry of Agriculture, and met regularly to "dynamize" or activate the ability of group members to fulfil their cooperative responsibilities to the people they represented. The intent was to internally develop the political consciousness of the group members and their capacity to become effective representatives for their people. In reference to the establishment of new systems of authority in liberated areas, Mondlane wrote "The main weapon in this struggle is general and political education, achieved through practical experience as well as in meetings, discussions and lessons." (1969: 165)

The dynamizing groups were eventually replaced with more formal Frelimo party structures, but the tasks remained the same: raising the political consciousness and capacity of the people to work towards the new Mozambique (Lappé and Beccar-Varela 1980). Their focus through the 1970s continued to be on horizontal education and capacity building, and on leadership arising from within every group, as opposed to being externally imposed.

The primary decision-making bodies in the new Mozambique were the People's Assemblies. They were created at all levels of government, from the village to the nation. The elected members of dynamizing groups were charged with nominating members of the community or group to be considered for the assemblies. These nominees were then discussed at length by the entire community and, in particular, whether there were things that might make a nominee unfit for the leadership role. This process eliminated from consideration 700 nominees who were traditional authorities under the Portuguese (Isaacman 1978). Once the village level assemblies were constituted, each of these elected representatives to the locality assemblies, who then elected representatives to the district assemblies, and so on, a wave of change that reached all

the way to the national assembly. Those appointed to the national People's Assembly were selected by the Frelimo Central Committee after approval by the Provincial People's Assemblies.

Frelimo also created Councils for Production at every level in Mozambique, charged with decision-making around production and livelihoods. Intended to be a first phase in the organization of unions, they were designed to be elected groups that discussed and worked on all issues relating to work and production at whatever level the group was constituted (e.g. a village cooperative, urban factory, or state farm). (Lappé and Beccar-Varela 1980)

This era, therefore, represented one of radical change from the extreme distance, authoritarianism and exploitation of the colonial regime. It is difficult to envision a more complete break from the past in terms of institution and policy design. However, the pre-existing colonial political economy, the initiation of U.S.-backed destabilization by white-ruled Rhodesia and later apartheid South Africa, a series of horrible droughts followed by terrible floods in the late 1970s and early 1980s, and eventual adoption of World Bank and IMF structural adjustments increasingly centralized these originally distributive revolutionary systems.

Finding a pragmatic response to the looming post-independence reality in Mozambique meant that the creation of popular authority in Mozambique was at best incomplete. Mamdani argues that, "if the Mozambican reform expanded popular participation, it simultaneously limited participation to a narrow village-defined limit." (1996: 108). The Frelimo party secretaries were appointed in each village, and were made the president of these elected People's Assemblies. In some areas, new leaders were selected from those that had been involved in the liberation struggle. In others, pragmatism led to accepting former regulos as the new party secretaries, particular in areas outside of the "liberated zones" of the war (West and Kloeck-Jenson 1999; Harrison 2000; Dinerman 2004).

The heavy focus on large state farms, villagization and labor concentration was one of the centralizing decisions made in the name of pragmatism. Cotton still generated about 20% of Mozambique's exports at independence, and Frelimo hoped it would provide backwards linkages to the development of a domestic textile industry (Pitcher 1996, Isaacman 1997). At independence, however, 90% of the population still lived outside formal village structures and cultivated plots of land less than 2 hectares in size (Isaacman and Isaacman 1983). To restore cotton production after the Portuguese farmers had abandoned and often destroyed all the farm equipment, Frelimo nationalized the smallholder cotton *concentrações* in the North and initiated a process of collectivization and villagization to encourage cotton production (Pitcher 1996).

Frelimo embarked on the program of villagization not only to encourage labor on the state farms, however, but to undermine the regional authorities which had existed under colonialism, to facilitate the expansion of health and education programs, to ease rural administration and information dissemination, and to facilitate more active participation of rural people in the political process (Hanlon 1990; Coelho 1998). As part of this process, many of the existing *aldeamentos* created by the Portuguese were kept intact by Frelimo after independence and people were encouraged to stay (Lappé and Beccar-Varela 1980).

Frelimo emphasized the large state farm sector over the family and even cooperative sector in most of the country due to the ideology of the party after independence, the pre-existing large 'modern' farms abandoned by the Portuguese, and donor support for the state farm sector (Barker 1985). The state farms were given the best land both because they were composed of the lands of the Portuguese settlers or large plantations, and because state farms were seen as the best paths to food self-sufficiency and export revenue (Isaacman and Isaacman 1983). During the severe drought food crises of the late 1970s, it was also believed that the large, mechanized state farms would be able to respond more quickly to emergency food demands than cooperatives or smallholders (Lappé and Beccar-Varela 1980). Faith in mechanization proved to be somewhat misplaced, as large-scale volunteer labor was required to ensure success. Even ministers and the president, Samora Machel participated in the volunteer labor force for the 1978 rice harvest at the Chokwe state farm (Lappé and Beccar-Varela 1980: 47).

In 1979 Samora Machel stated that Mozambicans would be wary of blindly accepting foreign aid, and made clear that they were studying the impacts of this aid on national sovereignty in other countries (AIM 1979). As a non-aligned nation, they applied this to aid from both the "west" (e.g. World Bank, USAID, etc.) and the "east" (COMECOM). With independence came a crisis that arose from the huge balance of payments inherited from the extractivist structure of the colonial economy. As a result, Mozambique entered the international system with a dependence upon donors. Indeed, while the United States had supported the Salazar and Caetano Portuguese regimes with millions of dollars of military and economic aid, the Undersecretary of State Donald Easum was the first foreign diplomat to grace Lourenço Marques after independence and, upon departure, offered $12 million in PL480 Food Aid (Isaacman 1975).

The large flux of petrodollars created by the OPEC price hikes in 1975 led international financial institutions to lower interest rates to 'recycle' the excess. This led many countries to borrow heavily during the late 1970s and early 1980s to finance rehabilitation, industrialization and general development. However, the majority of loans were in U.S. dollars from U.S. lenders at flexible interest rates, and when the recession of the late 1970s hit the U.S., the U.S. Federal Reserve increased interest rates and created an explosion in debt levels among countries that had borrowed heavily from the petrodollar surplus. The price of oil then dropped to about $8 per barrel in the mid 1980s, from the $40 per barrel in 1979, causing international commodity prices to drop and a disintegration of the terms of trade for many commodity exporters in Africa, including Mozambique. This combination of events served to not only generate a massive debt burden for Mozambique, but also to reduce the ability to service debt through production. Abrahammson and Nilsson report that Mozambique's debt service ratio quadrupled between 1980 and 1983 (1995).

Additionally, in the early 1980s, the Reagan and Thatcher administrations ramped up the cold war through the promotion of western state-backed right-wing insurgencies aimed at destabilizing nominally "socialist" states, as well as through so-called "constructive engagement," often involving making emergency aid contingent upon the abandonment of socialist principles. Additionally, the World Bank published the Berg Report in 1981 citing the failure of governments in Sub-Saharan Africa as the primary cause of 'underdevelopment'. After this, "regime change" became a centerpiece in the neoliberal structural adjustment programs starting in the mid 1980s. "Socialist" states, in particular, were targeted for "constructive

engagement" or more direct destabilization in the context of the cold war. Mozambique was subjected to both of these approaches.

Mozambique experienced a growing inability to meet its food import requirements, which was heightened both by the Rhodesian insurgency, Renamo, targeting food distribution and production infrastructure, and the four year drought which affected all of Southern Africa beginning in 1982. The United States pressured international donors to withhold disaster relief in Inhambane, the province which had been hit hardest by the drought in 1983, until Frelimo had agreed to U.S. demands for economic liberalization (Abrahammson and Nilsson 1995). The final agreement with the United States for the supply of emergency assistance included negotiations for membership in the World Bank and IMF (Abrahammson and Nilsson 1995: 101).

NEOLIBERAL DECENTRALIZATION

As a result of the external pressures outlined above, in 1984 Mozambique joined the World Bank and the IMF, in 1985 received $45 million from the World Bank for the Rehabilitation Program Project, and in 1987 received its first Structural Adjustment Loan from the IMF in the amount of $60 million. By 1989, external aid accounted for 79% of Mozambique's foreign exchange (Pitcher 1996). Conditions associated with the IMF's Structural Adjustment Loan in 1987, as well as its later loans in 1990 and 1994, increasingly restricted the government's ability to spend on services, and especially on expansion or rehabilitation of infrastructure, which would have run against the IMF's insistence on contractionary policies (Hanlon 1996).

While the first set of Structural Adjustment Programs (SAPs) focused more generally on macroeconomic adjustments, such as currency devaluation, tariff reductions, tax increases and other contractionary policies, the World Bank began to push privatization by the late 1980s and decentralization by the late 1980s and early 1990s.

Increasing conflict, driven by an insurgency backed by Rhodesia, and then apartheid South Africa, destroyed many of the institutions of the state in rural areas. The provision of services and the implementation of policy became nearly impossible in certain areas. By the time of the 1992 peace accord, over 1 million people had been killed, over 5 million people had been displaced from their land, and all evidence of commercial production had been eliminated in much of the country, due to transport destruction (Unruh 1998). In much of Mozambique, people increasingly fled to the larger cities or the coast as interior villages and farms were targeted by Renamo.

After the war, decentralization and the recreation of rural authority occurred at the same time as neoliberal restructuring of the political economy. What was the anticipated role within this new "leaner" state for these re-formalized rural authorities? Buur and Kyed (2005) argue that it was to re-create the ability of the central government to establish formal control on the ground and to turn rural peoples into "legible" subjects. Mohan and Stokke (2000) argue that the major donors promoted decentralization to break the power of central ministries, increase revenue generation,

and shift the burden of service delivery onto local stakeholders. It is likely that both dynamics were in operation, as the donors at that time wanted a "reduced state" and Frelimo wanted more legible subjects.

In the first phase of the decentralization programs in the 1990s, the former Frelimo rural institutions were abandoned, at least formally, denuding the neighborhood secretaries, popular assemblies, and Frelimo cells. In this phase, it was the "traditional authorities" that had served under colonial rule that were sought for donor decentralization programs (Kyed 2016).

From 1992 to 1997 the Ford Foundation funded the Ministry of State Administration to coordinate a study of traditional authority in Mozambique (cited by Buur and Kyed 2005). In addition, a 1995 USAID-funded traditional authority study became very influential in discussions about the role of traditional authorities in formalized governance (Burr and Kyed 2005). Rural authorities, and in particular ex-regulos, interpreted the workshops held around the country for the USAID project as affirmations/re-instatements of their colonial powers (West and Kloeck-Jenson 1999; Fry 1997). In his ex-post evaluation of the traditional authority component of the USAID project, Fry states that at the rural workshops the organizers, including representatives and project managers from the Ministry of State Administration, applauded rural authorities who stated openly that they wanted to return to the labor-mobilizing, tax collecting and disrespect-disciplining functions they held under the colonial regime (1997; cited in West and Kloeck-Jenson 1999). The disciplinarian function is confirmed in the northern coast research included in this dissertation, as community members were often reticent to present criticisms or claims against the government for fear of punishment.[15]

The second phase of decentralization programs after the year 2000 were a continuation and deepening of the decentralization reforms initiated in the early 1990s, despite claims of a shift away from neoliberal policy conditionality on the part of donors. However, unlike the first phase, these also included the prior Frelimo secretaries as possible "traditional" authorities to be recognized. Elements of both colonial authorities and early Frelimo authorities were re-empowered with the push for re-recognition of traditional authorities beginning in 2000. One the one hand, *regulos*, community leaders and religious leaders were recognized and given responsibilities similar to those they held under the Portuguese as agents of indirect rule. One the other hand, early Frelimo councils, cadres and local secretaries were also recognized within these new decentralization policies, and given similar enforcement roles to those they held in the 1970s and early 1980s (Kyed 2016). Despite these institutions originating in contradictory ideological systems, however, both types have been folded into a single overarching role as enforcers of current state authority. With state authority itself now re-oriented towards facilitation of FDI, these local institutions, regardless of their origins, now serve to support state interests in FDI mega-projects. The roles the councils, cadres and secretaries had in politicizing and debating policies and programs in service of their communities were not included in the new legislation.

[15] The primary field research referenced here and in subsequent sections was conducted in 15 communities along the northern coast from the Island of Ibo to the border with Tanzania in 2008 and 2009.

Decree 15/2000 was the first decree to formally (re)recognize many of the local authorities below the level of Administrative Post again and assign them formal state functions. Many of these authorities had been operating to varying degrees as local authorities and intermediaries for the state since independence, but with little formal recognition. During research in 2008, two neighborhood secretaries (*secretarios do bairro)* on one of the islands along the coast noted that they had served as assistant secretary since independence, and had become secretary upon being appointed successor by the previous secretary.[16] The vast majority of community leaders[17] reported being selected for their post before the passage in 2000 of the Decree On Local Authorities.

Among the official tasks assigned to these various community leaders is the responsibility to act as a representative of the community for all outside interests looking to do something with the natural resources in the area (Decree 15/2000). Buur and Kyed argue that "the recognized authorities are envisaged as performing a double role as representatives of rural communities with regard to the state, business and donor-aid relations on the one hand, and assistants of the state on the other." (2005) They argue further that the second part of that new authority, acting as assistants to the state, is more prioritized than the first. The state-side of this double role included an obligation to support state police in law and order actions, and included uniforms and a subsidy from the state as recompense for these tasks (Kyed 2016). This double-sided nature of rural authorities had existed before formal recognition, but through its formalization it became a standard. While decree 15/2000 assigned a large number of functions to these 'new' rural authorities, the top-down functions received much more attention than the bottom-up functions (Buur and Kyed 2005). The most commonly noted responsibilities of community leaders interviewed in 2008 and 2009 were conflict resolution (a 'bottom-bottom' function that these authorities had been conducting long before the 2000 decree), and informing communities of information the central government wanted them to know and government expectations in circumstances where communities and investors interests collided.[18]

Decree 15/2000 left the question open of who or how many rural authorities would be recognized. However, it did specify *secretarios do bairro* as possibilities for one level of the newly formalized rural governance system (Buur and Kyed 2005; Decree 15/2000). These were the same secretaries as those appointed by Frelimo at independence as part of the *groupos dynamizadores*. Among the communities interviewed along the northern coast of Mozambique during this research, these secretaries figured most prominently in meetings with district administrators, the multi-stakeholder EIA processes for the oil and gas exploration programs, and were the principally identified "community leaders" upon entry into the rural villages. It was not until 2004 that the *secretaries do bairro* were added to the list of recognized "community authorities" (Buur and Kyed 2005). The new constitution of 2004 formally recognized the role of traditional authorities in dispute resolution and law and order, further solidifying this internal conflict resolution function (Republic of Mozambique 2004).

---

[16] Interviews in 2008 with community leaders on islands of northern coast.

[17] "Community leaders" here refers to all types of community authorities below the level of the *chefe do posto*. This primarily includes *secretarios/chefes do localidad* and *secretarios/chefes do bairro.*

[18] Interviews conducted with community leaders in 15 communities along the northern coast in 2008 and 2009.

West and Kloeck-Jenson note that the administrative and donor "failure" to see the distinction between levels of authority among the "traditional authority" structures in rural areas resulted in the granting of powers to *régulos* that may be "untraditional" and beyond the scope of previous powers (1999). In the setting of multi-stakeholder meetings around oil and gas exploration, the assumption that the community leaders represent the voice of the community, and that they should have the power to represent those interests is clearly implicit. Only these leaders are invited to the meetings that are supposed to be "public".

However, in the context of oil exploration in Northern Mozambique, this does not represent a "failure" to see power and legitimacy distinctions, but rather an effort to construct the legitimacy of certain power relations that serve the interests of the state and investors. There are clearly benefits to having local authorities from the sites of exploration programs that can be called upon to deliver directives from the government, yet also have public legitimacy--a façade that makes their use of power appear representative of their constituency. The forums are designed to augment the flow of information from the top down, and, through a demonstration of political connections, to legitimize those in attendance in the eyes of those who were not invited. The summoning of authority within these meetings on behalf of the central government, as well as the presence of consultants and investors, is a service to the needs of the exploration program investment within the local area. The representative authority of the *secretarios dos bairros* summoned, however, is an authority only recently constructed, a representative power that is indeed highly "untraditional," as West and Kloeck-Jenson suggest (1999).

Community-based natural resource management (CBNRM) was another branch of the decentralization push, and involved the creation of community fishing, forest, agriculture and community development councils. A majority of these institutions are formal state institutions, such as Community Fishing Councils (CCPs), which are in turn linked to government institutions like the Institute for the Study of Small Scale Fisheries (IDPPE). Even conservation and natural resource management areas managed by private interests use state mechanisms to promote local resource management. At best, the process involves a mix of independent community-based management institutions and state institutions.

While local institutions practicing CBNRM, such as the community fishing councils (CCPs), certainly serve to extend the presence and influence of the state, the local government officials in these areas rarely enter the neighborhoods within towns and villages where the majority of the people live, in part because of the very nature of the process of political decentralization in Mozambique. Because all but the most local neighborhood officials are appointed by the central government, local administrators are rarely from the region that they are governing, and thus both create and suffer from a cultural gap with those they are governing. Additionally, the administrative culture of authority in Mozambique dictates that those in positions of power, regardless of age, are the ones attended to, not the other way around. Within this culture it was always the responsibility of the community to come to the Administrator, not of the Administrator to enter the community. This disconnection from the local population was also part of a more conscious effort to maintain government officials' allegiance with the central government above the local population. Most government officials' contracts are for two or three years, after which they are randomly re-appointed to another location in the country, until they

build up enough tenure in the system (or enough connections with the elite) to warrant some choice in the matter. Most CCPs therefore function almost purely as the most local arm of centrally-directed regulations and policies, and in fact operate almost solely to collect the annual license fees on boats for the Maritime Delegation. Members of CCPs in coastal communities in the north reported feeling restricted in their ability to voice concerns to higher state authorities involving management issues related to fish resources.[19]

Underlying the unidirectional focus of the recent decentralization programs is a recognition that, in areas also impacted by large foreign oil and gas projects, the state itself is bound to the investors, and thus has little incentive to allow real bottom-up decision-making. By placing the investment program for any oil and gas project under international contract law and stipulating a non-breakable partnership between the oil companies and the state, the oil companies and the state are able to avoid any pressures from below that might be exerted on the state due to environmental or social damages. While these contracts are often seen as tools for ensuring greater profits on the part of the oil companies, due to cost opacity and transfer pricing, by locking in the financial terms of the contract in time and place, they effectively externalize onto the state the cost of any local dissent. They make the state the sole arbiter of consent at the sites of operation. While some may feel this is the role of the state, in the case of these contracts, the state has no incentive to allow dissent. If the state allows participatory evaluations of the program by people at the sites of operation, and the people decide they do not wish for the program to proceed, the government has to pay indemnity to the investor often amounting to the value of potential future profits had the program gone forward. Additionally, breaking an investment contract will also trigger "conditionality" from the largest development banks supporting the budget in Mozambique.

The neoliberal decentralization of the 1990s and 2000s was thus never designed to provide real decision-making power to people beyond the scope of minor village budgets and internal conflict resolution. As in the colonial era, re-recognized rural authorities are not empowered to be effective representatives of their constituents to higher authorities, but the other way around. They are effective representatives of higher authorities to their local constituents. This top-down power tends to manifest most during two types of events: elections and new large-scale foreign investment projects near a town or village. Every community leader interviewed who had been invited to the "public consultation" meetings for the gas exploration EIAs reported their tasks as disseminating the information they received from the meetings to their constituents.[20] It was only in private interviews later that these leaders discussed the complaints of the community and lamented their restricted role in the process.

[19] Interviews with CCP members along the northern coast, 2008.

[20] Interviews with community leaders in northern coastal communities after EIA meetings in 2008 and 2009

CONCLUSION

The system of rural authority current operating in northern Mozambique exists to pre-empt dissent among local communities and has its roots deep in the indirect rule of the colonial past catering to private concession holders, slave traders and the Portuguese administration. The three-tiered model of rural authority and its particular top-down power structure displays surprising continuity despite Frelimo's early bottom-up revolutionary goals. The early independence Frelimo era marked a departure from the unilateral decision-making function of these authorities, but did not fundamentally change their design or structure. In the end, as Frelimo's revolutionary goals were consistently undermined by foreign economic, political and military disruption, the fact that the underlying structure of rural authority institutions had been left intact ensured their easy conversion to neo-colonial functions in the neoliberal era. With a concern for political capacity building and horizontal education fueling ground-up decision making, these institutions had served, albeit briefly, a radical purpose in the first few years of independence. Once those concerns were short-circuited, however, the underlying hierarchy of the institutions themselves enabled a return to more extractive, top down functions under neoliberalism.

Under this top-down model, while re-recognized rural authorities hold some legitimacy due to being members of communities, their responsibility continues to be primarily to those above them, as opposed to their constituents. This model has also allowed so-called public participation processes to take on an air of greater legitimacy, while at the same time fundamentally limiting real public engagement. By limiting invitations to "community leaders", they limit the broader community from participating, but they are also able to claim, due to recognition and decentralization programs, that these authorities are ostensibly representatives of their communities.

For genuine participatory governance and development in rural communities, the government need only look to its own past for initial steps. The dynamizing groups, community production councils and village assemblies provided both the fora, the internal capacity building, and the constant discussion and debate necessary to generate active and equitable ground-up decision making. The claims for food, water and resource sovereignties among rural communities around the world points to similar institutional models.

FRONTIER OIL & GAS DEVELOPMENT IN A VULNERABLE SOCIOENVIRONMENTAL SYSTEM

INTRODUCTION

In the Global South, accelerating offshore fossil fuel development and coastal agro-fishing livelihoods have come into more and more frequent conflict. Similar geologic pre-requisites for fossil fuels and high marine bioproductivity pit these disparate interests against each other. Neoliberal transformations which reduced regulatory requirements imposed on international oil companies and the rapid increases in the price of oil from 2004-2007 drove rapid expansion of the industry. Since 2000, the majority of new oil-producing states have been in the developing world. Eastern Africa, in particular, has experienced one of the most significant upsurges in oil and gas development as a result of these forces. In the last decade, billions of dollars have been invested in exploration activities in this region, oil and gas discoveries have been made in eight countries, and two of these have already begun production. In Mozambique, international oil companies have discovered the third largest gas reserves on the continent (U.S. Energy Information Association 2016).

The history of oil and gas development in the Global South, however, has more often than not been one of socio-environmental devastation, violence, expropriation and oppression.[21] While oil and gas development has generated billions of dollars in revenue in these countries, each suffers from a set of political and economic crises often referred to as the "resource curse," as well as a set of attendant socio-environmental crises excluded from the predominant Resource Curse narrative. Taken together, the crises attendant on petro-dependent economies have led to decreased terms of trade for the non-extractive sectors (Corden 1982), decreased political incentives for productive investment in non-extractive sectors (Schatz 1984; Sachs and Warner 1995), created enclave economies (Karl 1996), centralized political power (Ross 2001), contributed to civil war (Ross 2004; Le Billon 2004), polluted farm and fishing resources in regions in which extraction occurs (Okoji 2000; Ikporukpo 1983), and negatively impacted health outcomes for those living around the extractive sites (Okoji 2000; Ikporukpo 1983).

Mozambique, in particular, has seen one of the largest exploration programs in this re-emergent frontier development system. New regulations for the petroleum industry were enacted in 2004, increasing potential investor returns and facilitating regulatory approval, triggering a wave of new interest even before the early upswing of oil prices had begun to expand global exploration budgets. As global oil prices continued their climb through 2004, by 2006 Mozambique had over $300 million in committed investment funds for the exploration of the northern coast. By 2008 oil companies had discovered one of the largest gas fields in the world, holding up to 170

[21] These realities are most clearly documented for the long-term extraction economies of Nigeria, Sudan and Indonesia, but are also increasingly evident in newer producers such as Peru, Bolivia, and Chad. See, for example, Sawyer 2004, and Okanto and Douglas 1996.

TCF (trillion cubic feet) of gas. From 2014, oil companies began the process of financing a $50 billion LNG (liquid natural gas) plant to export gas from the rural northern coast, which would be the third largest LNG plant in the world.

The potential socioeconomic and environmental impacts of the rapid expansion of oil and gas exploration in Mozambique cannot be evaluated independent of an understanding of the pre-exploration status of the socioeconomic and environmental systems at the sites of exploration. Oil and gas exploration is not occurring in highly resilient and stable livelihood systems. Instead, these programs are entering areas where diversified and adaptive livelihood systems are already strained due to histories of war, dispossession and coastal migration.

LIMITS TO RESILIENCE OF COASTAL LIVELIHOOD SYSTEMS

From 2006, the renewed oil and gas interest in Mozambique has been most heavily focused along the northern coast. The concession areas for oil and gas extend from Pemba, the capital of the province of Cabo Delgado, to the border of Tanzania (see Figures 1 and 2). They encompass some of the highest marine biodiversity in the world, with coral reef, seagrass and mangrove ecosystems highly sensitive to changes in biogeoclimatic conditions, and coastal communities dependent upon these sensitive systems for their livelihoods.

This region is not a stranger to change. It has been a region of social, political and economic disruption for nearly a millennium. It has been a primary fishing zone for Makua, Makonde and Mwani peoples; a center of fish and Maluane textile trade with eastern African sultanates; a hub of the eastern African slave trade; the administrative base for early Portuguese colonialism and the conquest of the interior; and the destination for internal and external refugees fleeing forced labor on plantations, the Mozambican civil war, and more recently resource degradation and increasing droughts in the interior and other coastal regions. The Mwani, Makonde and Makua peoples living there have adapted to these centuries of change by relying heavily on marine resources, generally the last to decline in the face of terrestrial conflicts.[22]

[22] Terrestrial wildlife, for example, severely declined during the civil war as it was either used for food for both sides, or was decimated to eliminate food sources for the other side.

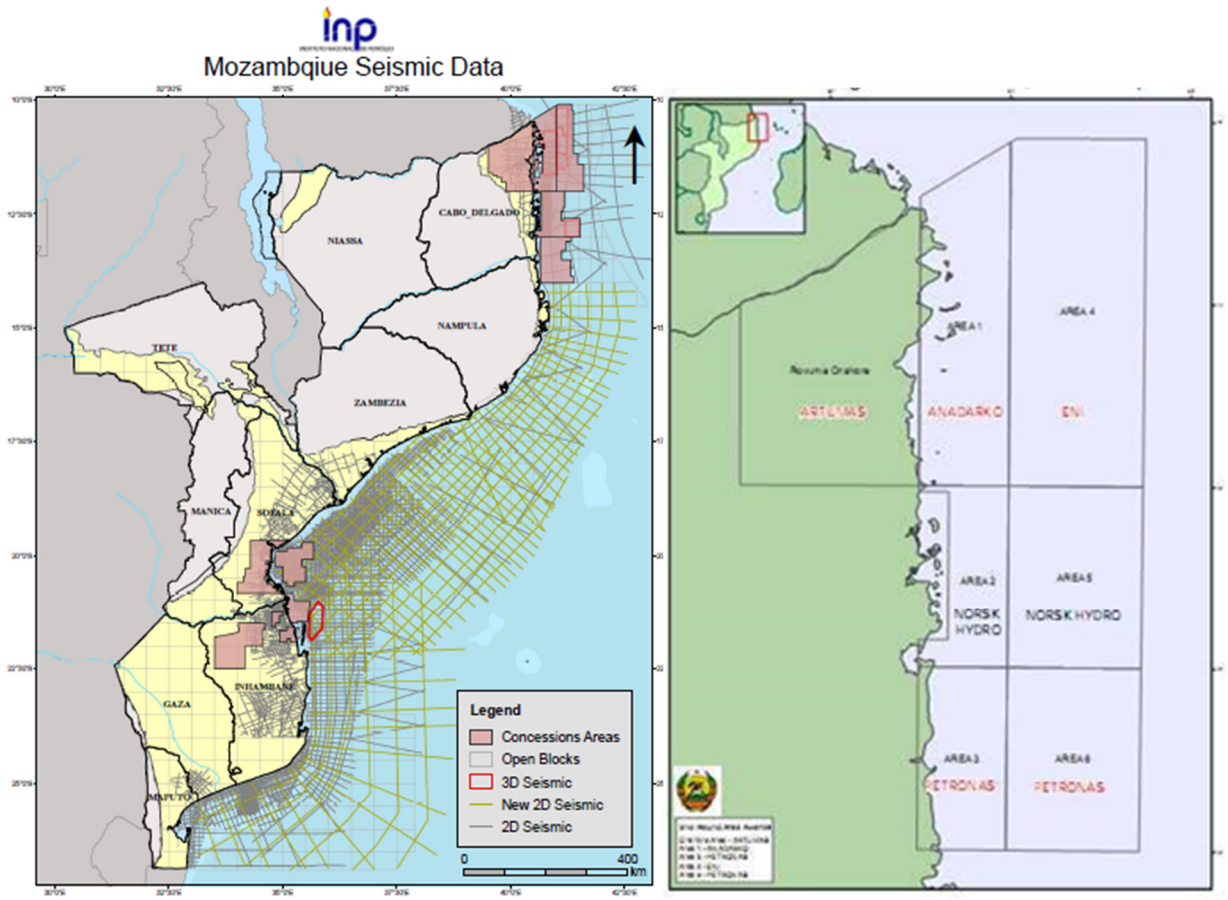

Figure 1:Map of Cumulative Seismic Exploration in Mozambique (left); Map of oil and gas exploration concessions along northern coast as of 2009 (right).

The mangrove, coral reef and seagrass fisheries of northern Mozambique provide the primary livelihood base for the villages along the northern coast of Mozambique. Ninety percent of protein in coastal diets along the coast comes from these fisheries. Fishing and fish collecting is the primary livelihood activity for the vast majority of people living along the coast. As a result of this dependency and the nature of these ecosystems, the coastal livelihoods in this area are particularly vulnerable to changes in biogeochemical conditions and resource access.

These marine systems have become increasingly stressed due to the culmination of the migration pressures driven by the civil war in interior zones, increases in illegal fishing by foreign fleets offshore, and more recent influxes of migrant fishermen from Tanzania and Nacala[23] (Gell and Whittington 2002; Wanyonyi et al. 2011; da Silva et al. 2015). Fishermen in this region have reported declining fish catches since the late 1990s.[24] Changing climates and ocean acidification also contribute to declining resilience of coastal fisheries.

[23] Nacala is a large port city south of the study that has itself experiences increased fishing pressure due to the above reasons, and has been experiencing out-migration of fishermen to further north along the coast.

[24] Interviews with fishermen in 15 communities along northern coast in 2008 and 2009

Environmental Systems under Pressure

The three ecosystems that provide the primary fisheries base for northern Mozambique – mangroves, coral reefs, and seagrass beds – each have particular sensitivities to biogeochemical changes in ecosystem conditions. The particular geomorphology of the northern Mozambique Channel and Mozambique coast allows for deep upwelling of nutrients within several miles of the coastline, often intersecting very shallow coral areas. Sediment is also transported to the coastal mangroves, coral reefs and seagrass beds through the Rovuma River – a paleo-river that has been depositing silt for eons – and other small river systems along the northern coast. The ocean currents cycle both of these sources of nutrients, as the northern coast of Mozambique is located at the point where the South Equatorial Current of the Indian Ocean meets the eastern African coast and splits north and south. This current also spreads the warm western Indian Ocean water through the coastal systems to balance the chill of the deep upwelling. Finally, the Monsoons serve to further cycle nutrients and temperatures within the coastal ecosystems. These biogeoclimatic forces contribute to an incredibly biodiverse, but also highly variable set of marine ecosystem niches.

The rapid shift in marine topography and number of corresponding micro-habitats contribute to the exceptionally high levels of marine biodiversity found in the coral reef, seagrass and mangrove fisheries in this area, but also to the spatially constrained nature of marine resources. The island chain along the northern coast includes deep trenches that bifurcate the coral shelves within a quarter mile of some of the islands. The ocean floor shifts from 15 feet to nearly 1,500 over distances of just a few hundred meters between the islands. The nutrients and minerals in the sediment brought up by the upwelling of cold water from these trenches is thereby delivered right into the middle of many of the reef and seagrass systems. This site-specific upwelling, therefore, contributes to niche habitats and geographically specific marine ecosystems. The reefs in this area are dense, but not extensive, and the seagrass systems are spatially isolated.

Temporal boundaries exist for both the fisheries and the fishing activities of those dependent upon them. The majority of reef and seagrass fish spawn each spring, relying on the shelter of the mangroves, coral reef or seagrass structures. The Kusi monsoon occurs from December to March with winds blowing from the North, while the Kaskazi monsoon occurs from April through November with winds blowing from the south, and these alter the temperatures and tidal flows amongst the coral, seagrass and mangrove ecosystems.

A tidal range of over four meters during the Kusi season generates large water and nutrient fluxes around the islands with each tide. As a result, marine systems have to be adapted to variable water cover, particularly the mangroves. This also means that, while mangrove cover is extensive in this region, only portions of it are suitable for fish spawning grounds because much of it becomes dry ground several times per day. Thus, in this northern region of the Mozambican coast, the seagrass beds and reefs predominate as spawning areas for fish, along with several key perma-flooded mangrove areas. The mangrove systems provide nutrients and cover for fish during high tides, as well as habitat for other marine organisms such as crabs.

The seagrass beds of the northern coastline are important habitat ground for the fish species of greatest prevalence in catches (Gell and Whittington 2002). These systems provide spawning grounds, food, and cover for fish species and a large number of invertebrate and mollusk species, and occur in waters three to ten meters in depth. They are only located in a few areas along the coast, however, and are not as extensive as either the mangroves or the coral reefs.

The coral reef systems are extensive in this region, are the primary source of the high marine biodiversity in the region, and contribute spawning grounds, food, and cover for fish populations and other marine organisms. They too are highly sensitive to changes in the biogeoclimatic conditions of the marine environment (Rodrigues et al. 2000). A coral bleaching event was triggered by an El Niño weather system in 1998, and impacted coral reefs from Southern Mozambique to Kenya (Motta et al. 2000). It is thought that this El Niño likely triggered red tides in the Mozambican and Tanzanian zones, which may have caused or worsened the coral bleaching. These systems only began to recover from this bleaching event a decade afterwards (da Silva et al. 2015).

Limits to Adaptation in Socioeconomic Systems

Due to the spatially and temporally variable fisheries ecosystems, and the overwhelming dependence upon fish resources in coastal communities, coastal livelihoods follow similar patterns of spatial and temporal constraints. The coral reef and seagrass areas that provide the primary fishing grounds for fishermen are located in very specific areas dictated by seafloor topography and currents, and freshwater supply from the numerous river outlets along the northern coast. Seasonal changes in winds, tides and spawning mean that fishermen are also limited more during certain times of years than others in their access to fisheries. Farming serves as a caloric base, and other subsistence and small-scale commercial activities serve only as short-term backup support for those who fish.

Fishing is the principal economic activity along the coastline, and the activity with which a majority of people living along the coast identify. Fishing provides the majority of protein consumed in the coastal zone, it is the primary occupation of a majority of the men living in these zones, and it is a baseline component in the identity of those who have been living in these coastal zones for a majority of their lives. Beyond the coast, the dried fish trade extends as far inland as Mueda, and is an important food source for an even greater share of the population than the above figures represent.

The majority of the coastal population lives in small towns of several hundred families located every few kilometers along the coast. A few larger towns with several thousand people are scattered along the coast as well, primary ports for fishermen and others moving up and down the eastern African coast via dhows. There are two major cities in the region, Pemba, and Mocimboa da Praia, although subsistence fishing remains a major livelihood activity there as well. The narrow coastal zone is dominated by the Mwani peoples, which means “water” in their language, Kimwani, as well as in Swahili, one of Kimwani’s primary source languages. Centuries of fishing-trade networks have extended thousands of kilometers up and down the coast of eastern Africa, and this region was once one of the centers of this trade (Newitt 1983).

Due to the above biogeoclimatic constraints to the marine ecosystems, appropriate times for fishing during the day, week, month and year relate to the daily, weekly and monthly tidal flows and alterations, the monsoon seasons, and severe weather events. Because of the scale of tidal fluctuations in shallow water areas in this area, fish spawning areas are limited spatially to those areas that are consistently underwater, yet still located in shallow water areas. Disruption to these areas, or restrictions on access present a greater impact than if the primary catch involved larger pelagic fish from deeper waters and spread over much larger areas. Fishermen either do not fish in these spawning areas during this time, or are prevented from doing so by protected area restrictions. Fishermen are also limited by the scale of regular tidal variations. The two monsoon seasons further limit access to fishery resources through seasonal shifts in the tides, winds, rain, and sea temperatures, which all affect both the ecosystems of the coastal areas and the livelihoods that depend upon them.

Table 2: Socioeconomic stratification of fishing methods and vulnerability

Method	Cost	Catch quantity and allocation	% of fishermen with access[25]	Vulnerability to loss in fishing days
Own dhow and large net	High	3 catch portions: one for fisherman, one for boat and one for net With large net, catches can reach 150kg or more, so portions can be much larger than with other fishing methods	1-5%	**Medium:** -Loss of primary source of income, but boat and gear owners generally have materials savings and alternative sources of income, such as merchant shops
Non-owner fisherman on large dhow with net	Low[26]	1 catch portion As above, catch portions can be large due to the net size	5%-25%	**High:** -While catches can be high, they often aren't, and these fishermen generally have no savings or other substantial income earning assets to fall back on
Canoe owner with harpoon or line	Medium	Due to size of canoe and lack of large nets, catches can range from 2-20kg.	50%-80%	**Very high:** -Catches are often only sufficient for daily subsistence, so savings is low and backup income earning assets are non-existent
Basket or Fence trapping	Low	Baskets are small, and can only hold up to ~20kg of fish 2-15kg/day	5-10%	**Very high:** -They can't fish if access to ocean is restricted -Fish catches are too low to afford savings and backup income earning assets
Beach-based line or iron hook fishers and collectors	Low	Without a canoe, catches of fish are generally lower, but collectors can catch quite a bit of octopus, sea cucumber and other tide-pool-dwelling organisms 2-15kg	10-30%	**High** -Beach fishing less often restricted than ocean fishing, but these are often the poorest of the fishermen with the fewest viable backup strategies when they cannot fish -environmental changes can impact these locations sooner than deeper waters, however

The most productive fishing areas in this region are the seagrass beds, the coral reefs, and several sand banks that rise up from medium depth waters (Rodrigues et al. 2000; Gell and Whittington 2002). This is largely because the sea conditions in the deeper water are too severe for the size and sturdiness of the boats a majority of Mozambican fishermen use in this area. The swells can easily reach four meters just east of the islands as the continental shelf drops off rapidly.

[25] These numbers were derived based on average ranges among the fishermen and women fish collectors interviewed across 15 fishing communities from the Island of Ibo to the border with Tanzania in 2008 and 2009

[26] While the cost of being a member of a boat crew is low, membership is restricted and there are limited spots available

Therefore, the outer reef shelf experiences much less fishing pressure than the interior coral areas, seagrass areas and mangroves.

What fishing method one employs depends primarily on access to materials or money to purchase them. The primary fishing methods in this zone are seine net, line, fence, basket trap, harpoon and shallow collection with iron spear hooks, in order of decreasing materials cost to the fishermen. The most lucrative of the fishing methods is owning a Dhow/Sailboat and a seine net, and hiring a crew. The owner of the boat and the net get an extra share of the total catch for both the net and boat, and thus walk away with three times as much of the catch as the other fishermen on the boat. A majority of fishermen do not have access to these means, and either fish on other people's boats with other people's nets, use a canoe, or wade into shallow beach waters with gaiolas (basket traps) or iron hooks to collect sea cucumber and octopus.[27] Due to their extreme shallow water location and proximity to the shore, seagrass systems are generally more easily accessible to fishermen and women without boats.

While there is substantial variability in days different fishermen fish contingent upon fishing method, weather, tides, and household factors, a majority of fishermen in this region report fishing eight days out of twelve, only stop ping for the neap tides. This only changed for those using fishing methods such as gaiolas that depended upon calmer tides, in which case, fishermen only stayed out of the sea during the strongest tides. However, the variability does mean that the days that are spent fishing are essential to the livelihoods of the fishermen.

While fishing is done exclusively by men, collection of octopus, crab, sea cucumber and other shallow water organisms in tidepools, close-to-shore seagrass beds, and mangroves, is an activity predominantly done by women and children. During the periods that fishing is limited, men will often turn to collecting as well, which can shift household income control from women to men during these times. Collection of crab is predominantly for consumption, while collection of sea cucumbers and octopus is primarily for sale.

[27] Interviews with fishermen in Ibo and Palma, 2008

Figure 2:Beach where fishermen embark and disembark along northern coast. Canoe in foreground and dhows in background. Source: Daniel Ribeiro

As noted in table 1, the majority of the men interviewed in the communities along the northern coast self identified as fishermen first, and farmers second. On the islands this was true for women too, although they collected fish and marine life from mangroves and tide pools close to shore. Those that identified as primarily farmers were often those that could not fish either due to lack of ability, materials or connections to work as a laborer on another's boat. With increasing pressures on marine resources, however, farming has taken on a more primary role in weekly and monthly household labor time. Farming now provides a majority of the caloric base for those living along the coast.

Agriculture along the immediate coastal zone is the source of the carbohydrate staple of coastal diets, and ensures a baseline access to caloric sustenance when climate or other external factors restrict the ability to fish. A majority of fishermen own a small tract of land for a "machamba", generally about one hectare in size, sometimes along with a smaller "horticulo" or garden closer to their house. The primary crops grown are manioc, corn, millet, rice, and potato. Manioc can be grown year around, and thus provides a relatively stable backup subsistence source for the whole year. The other crops are often grown for sale to augment household income. While men play a role in clearing and tilling the fields each year, women provide the dominant source of labor for the farm in fishing households. Farms are often far away from the household, particularly for island dwellers, due to the limited availability of land. Collection and farming

comprise the primary economic activities of women in fishing villages, and a significant source of household income.

Manioc is the primary inland staple in northern Mozambique, followed by maize, and millet although imported rice has been increasing its presence in rural communities in the north due to decades of agricultural liberalization. For coastal communities in the north, however, manioc is still the primary source of carbohydrates, and the baseline subsistence support for families when fishing is not possible. Manioc production can vary quite significantly year to year, however, so the range of support it provides livelihoods is variable. The advantage it has over other carbohydrates, however, is that it can be grown year around in this region with no inputs or irrigation and minimal farm labor, except in the driest years.[28]

Beyond the primary livelihood activities of farming and fishing, auxiliary livelihood activities are kept up as risk hedging strategies for times of stress. These include some animal husbandry and planting of fruit and nut trees. Coconuts can at times provide more income to the household than fishing. Cashew trees also make up a significant portion of annual livelihood support, for those families that have access to them, as they are generally sold to local traders who bring them to the larger coastal cities for roasting and sale or small-scale processing.[29] Mangos are predominantly used for backup consumption, as they are abundant enough that sale in local markets in smaller coastal villages is not of interest.

When livelihood resources become unavailable and no longer function to provide for the family, people will ask for credit from local merchants, generally to purchase imported rice to last them until they can harvest manioc and/or fish again. However, rural credit seems to be available primarily to the better off members of the communities, particularly the fishermen that own boats and/or nets as well as other assets. During times of stress, credit may be made available to a broader set of fishermen, but likely not the poorest.

Existing stresses on livelihood resilience along the coast

Coastal marine resources have become increasingly
strained over the last several decades. While the Portuguese had begun to overfish this region by providing motorized boats to local fishermen and buying all their catches, this declined as the independence war progressed. Pressures on these fisheries resources returned, however, with the large internal migrations of people seeking safety from the violence of the civil war in the interior and center of the country during the 1980s. Then, as industrial foreign fishing fleets increasingly took advantage of the government's lack of ability to patrol its coastal waters, and

[28] Mamdani notes that the minimal labor requirement for cassava production was the reason the colonial administration forced the shift from more labor-intensive, but higher nutrient and protein containing, simsim and millet (1996: 162).

[29] The cashew processing industry was one of Mozambique's largest agricultural industries at one point, but was dismantled with cuts in government support for the industry due to conditions set by the World Bank in the first Structural Adjustment" loan in 1986 (Hanlon 2000; Abrahamson and Nilson 1999).

later the formalized liberalization of the exclusive economic zone,[30] coastal fish stocks were further strained through bycatch and food chain impacts. With this, fishermen from Tanzania began moving further south into Mozambican waters. Fishermen within Mozambique from the larger coastal cities that more quickly impacted their fisheries simultaneously began to move north into smaller fishing villages where fisheries were still functioning. As a result of these processes, fishing resources are already strained and more vulnerable to shocks than they otherwise would be.

While there is substantial diversification of livelihood supports within the socio-environmental system of the northern coast of Mozambique as listed in table 1, many of the components of this diversified system have been stained in recent decades. The primary component of this system, fishing, is quite vulnerable to disruption due to the already stressed nature of the fisheries noted above and the sensitive nature of the fisheries ecosystems to alterations in the biogeochemical system. With increasing droughts in much of the country in recent years, farming is also becoming more difficult. Coconuts have also been attacked since the early 2000s by a strange blight that causes the trees tops to fall off, and thus are also of declining utility as a risk-hedging livelihood component.

When further strain is put on these systems, serious limitations on people's livelihood viability result. Table 1 compiles responses from households regarding their backup activities when they could not fish for short periods of time, or more permanently. In the short term most turned to the alternative livelihood supports listed below fishing. After a seismic program in 2009 where most fishermen stayed out of the water, most turned to their farms. Coconuts were harvested for food and to sell in the interior. People who had marketable skills used them; some took temporary house-building jobs, some built boats, others tailored clothes. However, when asked what people would do if fishing were no longer an option or were significantly restricted, besides migrate, most noted farming manioc for subsistence and either making charcoal for sale or hunting.

It is on top of the pre-existing strains discussed above that the last decade of oil and gas seismic exploration and pre-production programs have been conducted. Secondary and auxiliary livelihood activities are already increasingly relied upon as fish catches have been decreasing. Therefore, any changes induced by increasing industrial exploration for oil and gas, and now production, need to be understood within the context of this already stressed socio-environmental system, and thus a system whose resilience is already being strained.

[30] The Exclusive Economic Zone refers to the 200 mile zone of resource control each coastal country has over its coastal waters.

Figure 3:Coconuts harvested for food and sale when one coastal community could not fish during seismic program

RISE OF OIL AND GAS DEVELOPMENT

There has been interest in oil and gas in Mozambique since the early decades of the 20th century (Hedberg 1950). The first well was drilled during WWII in 1938, but exploration picked up after WWII due to the entry of U.S. oil companies into the region. Gulf Oil first gained a concession in 1948, discovered its first gas field in 1961, and increased exploration through the 1960s (Hedberg 1950, Hedberg 1952, Moody 1962). However, as the independence struggle intensified, most oil companies left.

Oil exploration experienced another minor boom in the mid 1980s, predominantly due to aid-induced liberalization of foreign investment policies in Mozambique through the decade. In 1981, with assistance from Norway, Mozambique passed its first Petroleum Law, which created a national oil company (Empressa Nacional de Hidrocarbonetas, ENH) and allowed it to enter into partnerships with foreign oil companies.[31] Facing major droughts and floods from one year to the next in 1982 and 1983, USAID made emergency assistance contingent upon Mozambique signing the World Bank and IMF articles of agreement.[32] Soon after signing in 1984, the World Bank distributed the first Economic Recovery Credit, with conditions including the liberalization of foreign investment regulations (World Bank 1985). These conditions, along with the explosion of oil prices in the early 1980s due to the OPEC embargo, led to some exploration activity by the supermajors Exxon, Shell and British Petroleum before conflict and collapsing oil and gas prices again halted activity by the end of the 1980s (McGrew 1984, Hartman 1987).

It wasn't until the early 2000s, when Mozambique first revised its petroleum law, and the U.S. invasion of Iraq triggered another rapid rise in global oil prices, that companies began to express interest in Mozambique again. The 2001 law created the National Petroleum Institute and tasked it with promoting foreign investment in the oil and gas sector of Mozambique. It did this by further decreasing the government "take" in production sharing contracts, and by initiating a series of open concession licensing rounds. The gas fields discovered by Gulf Oil in the 1960s began exporting gas in 2004, and the first concessions in the north of Mozambique were granted in 2005. From 2006 through 2016 there have been over ten major seismic programs by five transnational oil companies, amounting to over $500 million in investment, just in the north of Mozambique.

Two seismic programs along the northern coast illustrate the nature of the social and environmental impacts of these programs within the context of already strained social and environmental systems. One of these programs was a deep water program offshore the Quirimbas Archipelago in May 2007, and the second a shallow water program conducted from May 8th to May 29th 2009 between the northern edge of the Quirimbas Archipelago and the border with Tanzania (see figure 2 for program locations). The 2007 seismic program was one of the first seismic programs along the northern coast of Mozambique. While it was a deep water program, it took place just offshore the Quirimbas Archipelago, and thus the seismic

[31] These partnerships were early production sharing agreements, which were promoted by Norway as they reduced risk for foreign oil investors.

[32] For a good expose of the coercive nature of these liberalizing pressures from foreign aid, see Abrahamson and Nihlson 1996, and Hanlon 1991.

survey came within 100 meters of the eastern side of the islands, and impacted coastal marine resources and livelihoods.

The author conducted individual interviews with fishermen and women fish collectors, and conducted focus groups in the affected communities 2-6 months after these seismic programs. The results of these interviews form the basis of the subsequent analysis below.

Deep and Shallow Water Seismic Exploration Processes

Marine seismic exploration involves firing high decibel air guns under water and recording the sound waves as they bounce off the seafloor and sub-seafloor geologic strata. This data is then used to determine the geology beneath the seafloor, and the likelihood of hydrocarbons and the geologic formations that contain them. The air guns fire at 190 decibels every 7 to 15 seconds, 24 hours a day, for several months at a time. The 2009 seismic program in Block 1a included about 5,000km of seismic "lines", meaning the boat traveled for 5,000km in lines back and forth across the shallow water areas of the concession.

The 2009 shallow water seismic survey included a combination of seafloor cables and ocean surface microphone and air-gun cables, depending upon how shallow the water was. For the shallowest waters, seafloor cables were used as the surface cables could be damaged. The Environmental Impact Assessment (EIA) for this survey (2009) stated that the minimum water depth would be 5.5 meters, but fishermen reported the cables were extended all the way up to the shoreline.

Seismic impacts on coral and reef-grass marine ecosystems

The primary environmental impacts of seismic exploration programs are impacts on marine organisms from the high decibel sound sources, and the seismic infrastructure (such as seafloor cables). After the coastal seismic programs in northern Mozambique, fishermen reported significant impacts on marine organisms.[33]

Fishermen in one community reported a mass bottom-feeding fish die-off during the 2009 seismic program close to a large seagrass habitat. The community near the central portion of the program reported that the entire beach was covered in dead bottom-feeding seagrass fish. The dead fish reportedly covered several kilometers of beach. While other communities did not report similar scales of die-offs, six other communities reported fish deaths during the 2009 shallow water seismic program.

In the same seagrass areas, there were reports of mollusk deaths (see figure 5). Given the proximity of the sound sources to the seafloor during the shallow water seismic program (5m depth), it is possible their greater abundance in the seagrass beds likewise led to their higher death rate on the beaches of this community.

[33] This fish death data is from the author's interviews with fishermen and women fish collectors in 15 fishing communities two months after the shallow water seismic program in 2009

Figure 4: Fishermen displaying species of mollusks that appeared dead en masse on the beach during 2009 seismic program.

Fishermen along the entire coastal area of the 2009 seismic program also reported the possible triggering of a red tide.[34] These are known to occur in the region occasionally
Figure 5: Fishermen displaying species of mollusks that appeared dead en masse on the beach during 2009 seismic program.

(Rodrigues et al. 2000), and can be triggered by shallow water mixing events that cause the algal polyps to burst (Marasovic 1989). Fishermen reported rashes from the water which began within a few days of the beginning of the seismic program and continued for a few weeks afterwards, which can also be caused by a 'red tide'. Eight of the communities interviewed after the 2009 seismic program reported several signs of this 'red tide': photoluminescent dinoflagellates or phytoplankton, red, brown and murky water, high turbidity, and rashes on people who spent time in the water. The effects lasted quite awhile even after they peaked, however, as elevated levels of photoluminescence persisted in the waters along the southern edge of the seismic program at

[34] A 'red tide' is an explosive bloom of red algae or phytoplankton that overwhelms local ecosystems due to increases in biological oxygen demand, and decreases in photosynthetic energy due to decreases in light permeating the water. They are often comprised of algal or phytoplankton species which are toxic to other marine organisms, and can cause rashes on humans. A red tide was cited as a major contributor to the coral deaths after the El Nino year in 1998 (da Silva et al. 2015).

least until the middle of August, two months after the end of the seismic study. The intensity of the rashes was noticeable for fishermen quite accustomed to the normal levels of photoluminescent phytoplankton that occur in the region.

In addition to sea-grass and reef fish, turtles and marine mammal deaths were also reported. A tour operator in the region noted that since the 2008 seismic survey, a particular pod of dolphins that they had been tracking disappeared, appearing only sporadically. Fishermen along the coast also noted that in certain areas whales did not return to the areas of the seismic studies.

Acute loss of access to fish and fisheries

Compounding the real reduction in fish catches in these communities, most fishermen within the boundaries of the seismic programs reported not fishing during the weeks in which seismic vessels were passing their communities because they were restricted from doing so by their District Administrators, Heads of Administrative Posts, or neighborhood secretaries. In the Quirimbas Archipelago, fishermen reported being told to stay out of the water for two weeks during the seismic program of 2007. Communities reported being restricted from fishing in their primary fishing area during the shallow water seismic program of 2009 as well. The majority of the fishermen interviewed noted either that they did not fish at all during the 2009 program, or they could not effectively fish in their "alternative" areas. Community leaders reported that they instructed fishermen in their neighborhoods to stay out of the water during this time because the leaders themselves had been told to do this at the meetings with the EIA consultants and oil companies.

For those few fishermen that either went fishing despite the prohibition, or had a viable alternative fishing area, most reported reductions in fish catches. Of the communities reporting fish catch reductions during and after the 2009 program, the average catch was only 15% of normal for the season. Two of the communities with fish reductions during and after the program reported fish disappearing almost entirely during the program. All the fishermen that reported fish catch reductions said catches had not returned to normal by the time of the interview (August 2009), two months after the 2009 program. This implies that fish either died or permanently fled to new locations. As much of what fishermen catch along the coast are not large pelagics and do not migrate long distances, and given the consistency of reports along the entire stretch of coastline, the stronger likelihood is that many reef fish and bottom-feeding demersals died.

Reductions reported in fish catches during and after the shallow water seismic program presented substantial socioeconomic difficulties for coastal communities (and interior communities also relying on fish-based protein). Communities along the coast rely upon fish for upwards of 90% of their protein, and do not have a readily available substitute. Beyond the direct dietary implications, when fishermen stop catching fish, it is not only immediate consumption that is hurt, but household economics and internal dynamics, community economics, and the broader dried-fish trade networks extending into the interior.

Household gender equity was also negatively impacted as a result of these programs. During the 2007 seismic program, many women reported not going out to collect fish along the beaches and tide pools, assuming that the fishing restriction during that time extended to their work collecting octopus, squid, small fish, oysters and sea cucumbers at the fringe of the mangroves or on the coral tide pools. Additionally, as many of the men turned to collecting octopus, crab and sea cucumbers when they believed they were prevented from fishing, this displaced women collectors from these regions, thus further differentiating household income during this period.

For most who did not have alternative fishing areas, income largely disappeared during the time of the seismic studies. During the time when fishermen were prohibited from fishing in their primary areas during the 2007 and 2009 programs, many fishermen reported relying predominantly on credit from local merchants. For these fishermen, their income was impacted for a significant time after they returned to fish, as had to pay back the credit they borrowed for consumption purposes during the seismic programs.

Many relied more heavily on cassava and lanhas (young coconuts) during the seismic programs, but there was little protein substitution during the period. This can present significant health difficulties for those already suffering from other health and nutritional problems. For those families that went for longer than several weeks without a sufficient protein source, this presented a serious stress.

LIVELIHOOD SUBSIDIES FOR INTERNATIONAL OIL COMPANIES

While the actual environmental impacts of the seismic program were substantial, these negative impacts were further augmented by communication and compensation strategies aimed at keeping fishermen out of the water and preventing all compensatory claims. The communication and compensation plans were designed to minimize interactions with the people living in the zones of these programs, rather than obtaining consent for the programs and fully compensating for livelihood impacts.

The oil companies and environmental consultants have more recently opted for social fund compensation of communities rather than individual compensation plans (IDPPE 2007; Impacto 2008b). Oil company and environmental consultant representatives argued individual compensation was a messy process that they wished to simplify or avoid as much as possible.[35]

The compensation plans revealed a bias against fishing livelihoods. Despite the evidence from this research that fishermen fish as much as the tides, winds and weather make feasible, oil company and EIA consultants argued that fishing is only a casual, auxiliary livelihood activity.[36] It was further argued by environmental consultants that the fishermen who could not fish would be easily be able to rely on credit from the island's merchants, or other alternative livelihood supports, and this would be enough to sustain them and their families and all others dependent upon the protein from the fish for the time period that people were prevented from fishing.

[35] Interview with environmental consultant and oil company representative, 2008.

[36] See, for instance, Impacto (2008b:10).

Diversification of agro-fishing livelihoods then served as an informal subsidy to transnational oil and gas capital.[37]

The scale of restrictions the companies placed on requests for compensation limited the possibility of a successful claim. As stated in the compensation plan attached to the final EIA for the Shallow Water Seismic Program (2009), only those fishermen interrupted from actively fishing (i.e. actually in the act of fishing at the time of contact) by the seismic chase vessels would be eligible for compensation, contingent upon the chase vessels actually registering the name of the boat captain, equipment, and other relevant information, and the fishermen following up this contact with a formal request to neighborhood secretaries, heads of administrative posts, or district administrators. While fishermen in many communities reported encountering chase vessels during the seismic programs, not a single fisherman reported being given any contact information by the chase vessel for later registration for compensation. The Fisheries Liason Officer (FLO) final report for the shallow water seismic 2d program (2009) even mentions the seismic vessel encountering sail boats and canoes every day, and warning them away due to the seismic operations. The report mentions physically towing some sail boats away from the seismic operation due to low winds, and includes a photo of a canoe they towed (Impacto 2009a). However, neither the final FLO report nor any fishermen interviewed after the program reported any claims for compensation. For the communities affected by the 2009 program, only two communities reported being told about the compensation plan.

Therefore, while fishermen were told to stay out of the areas where the seismic vessels were operating during the program, and a vast majority did, none of these fishermen were entitled to compensation even though they provided right-of-way to the seismic vessels and made their job easier by staying out of the water. Few fishermen reported successfully fishing in an "alternative" area during the program, and thus staying out of their primary area during the program often constituted a complete halt to fishing for them during the time they understood they were expected to stay out of the water. The predominant fishing areas of different communities were documented, but a procedure allowing for standard compensation during the times when these areas, or access to these areas, were restricted was not implemented. Most Ibo fishermen understood from local government officials that they could not fish at all during the entire time the seismic vessel was near Ibo Island, and thus did not go fishing at all for a week or so. No one received any compensation for that week, nor did anyone interviewed file a request of any sort for compensation or know anything about the process for filing a request for compensation.

CONCLUSION

Communities along the northern coast of Mozambique where oil and gas exploration has been progressing since 2006 depend upon marine resources of the coral reef, seagrass and mangrove ecosystems. However, after decades of migration to the coast due to war and declining fisheries

[37] For an interesting analogue, Collins (2009) notes that maquiladora managers in central Mexico explicitly hired women that they knew had alternative livelihood supports so they could keep wages low.

elsewhere, and these resources are already under pressure. Fishing households are thus already maximizing their reliance on farming and auxiliary livelihood supports.

The impacts on coastal agro-fishing livelihoods from seismic operations, drilling and future large-scale gas production plans are therefore occurring within in a context of already strained socioeconomic and environmental systems. Along the northern coast of Mozambique, fishing communities have been reporting significant negative impacts on their marine livelihood resources from seismic programs. Additionally, during the seismic programs fishermen were told by their community leaders and district authorities to stay out of the water, which lasted several weeks for each area.

When faced with acute restrictions to fishing, most fishermen reported relying on farming, hiring out their labor, and/or harvesting coconuts. The better off in the village were able to get credit from the local merchants. Those with less often turned to charcoal production or hunting. During long-term reductions in fish catches or ability to fish, fishermen reported relying much more on manioc for subsistence and charcoal production or hunting for sale, depending upon the proximity to sufficient forest resources. As the EIAs for the seismic operations had concluded that fishing was itself a casual and auxiliary activity in this region, it suggested no compensation for lost fishing days or reduced fish catches. Fishing households' diversity of livelihood supports and risk hedging strategies thus became an informal subsidy to the international oil companies investing in the region.

Fishermen are being displaced from their most productive fisheries and primary livelihood resource due to these gas developments. With the impending increase in marine traffic from the future operation of the third-largest LNG (liquid natural gas) plant in the world and the displacement of 10,000 families from the peninsula housing the plant, local environmental and socioeconomic systems are facing a growing scale of impacts.

To date, however, government and investors have focused more on rationalizing and legitimizing the investment programs through the EIA process than addressing community concerns arising from them. While this has functioned to pre-empt dissent through the exploration phase, it is faltering in the face of the large-scale resettlements and marine impacts expected from the LNG plant.

EIAS AND NEOLIBERAL ENVIRONMENTAL GOVERNANCE IN FRONTIER OIL DEVELOPMENT IN NORTHERN MOZAMBIQUE

INTRODUCTION

Environmental Impact Assessments, ostensibly developed to mitigate the worst environmental and social impacts of projects, have expanded in their use in the Global South for three decades, yet pervasive, large-scale, predictable and avoidable impacts of mega-projects haven't substantively changed, and in many cases have gotten worse. This apparent contradiction is driven by two factors: a symbiotic relationship has formed between the state, transnational corporations and the transnational environmental consultant industry; and the *function* of EIAs has not been, in practice, to address and ameliorate the environmental and social impacts of the largest-scale industrial projects, but rather to *legitimize* environmental and social impacts to global civil society, while pre-empting dissent among locally affected communities.

Globally, the implementation of environmental impact assessments, particularly the participatory processes within, has been primarily concerned with reducing social conflicts around environmental and social impacts arising from projects, programs and policies, rather than actively addressing the impacts themselves. In the context of the Global South, these processes rarely manage to alter the trajectory of projects (Wood 2003). The ability for these processes to manage more than conflict is generally dependent upon access to legal recourse if demands for change are not met. When this legal option does not exist, the EIA process loses its potential as a tool to challenge environmental and social impacts of projects on the part of affected communities.

A network analysis of the linkages between transnational extractive industries, states, and the global environmental consulting industry is beyond the scope of this article, although some recent authors have begun to tackle this (Carr 2016). Additionally, the dialectic between international social movements and the international development banks resulting in the global spread of a superficial EIA process has been well documented (Rich 1996; Fox 1998; Goldman 2006). However, there has been little work on the mechanisms through which EIA processes have functioned to pre-empt dissent among project-affected communities in the global south.

This article will trace a brief history of the development and promulgation of the EIA system globally, and then focus on a case of their application in the frontier gas fields of northern Mozambique. Mozambique has a long history of conducting environmental impact assessments for extractive industry 'mega-projects'. The country has a long-established regulatory framework and environmental consulting industry, and in the last decade has experienced a rapid increase in extractive industry investments. An investigation of EIA processes for several oil and gas exploration programs from 2007 onwards reveals the mechanisms by which the oil

companies, environmental consulting industry and the state have attempted to manage dissent at the sites of these oil and gas exploration programs.

ORIGINS AND FUNCTION OF EIAS

The origin and global spread of environmental impact assessments was initially wrought with conflict due to opposition from the industries targeted by these regulations and the public institutions subsidizing them. At each phase in this early history, these assessments were written into law or institutional policy only after substantial social mobilizations and expensive legal battles. EIAs originated in the U.S. under the National Environmental Protection Act of 1969 [42 U.S.C. 4321 et seq.] only after the emergence of a rapidly growing environmental movement triggered by increasingly high-profile environmental scandals[38]. USAID only started applying the NEPA to their foreign operations in 1976 due to a public interest lawsuit brought against them for failing to meet NEPA requirements earlier (Rich 1996, Goldman 2006). This was soon followed by many other countries, with the EU and a number of member states adopting rules in the mid-1980s (85/337/EEC), which were then extended to their foreign assistance programs. The World Bank had been conducting limited EIAs since the early 1980s when it opened its first environmental office, but only began formally requiring EIAs in 1989 after huge public outcry and an eventual U.S. Congressional hearing over the horrendous impacts of many of the World Bank's largest international projects, particularly the Polonoroeste infrastructure project in Brazil which involved massive logging, highway and transmigration programs in the Amazon region (U.S. House Subcommittee on International Development Institutions and Finance 1983, cited in Rich 1996).

The multi-billion dollar global environmental consulting industry was then born of a combination of: 1) the scale of global lending for mega-projects; 2) requirements that all of these projects have EIAs conducted at the very least by the donor institutions; and 3) neoliberal development policy reorienting state regulatory systems towards the facilitation of foreign investment (and in particular, mega projects) in the global south. There has not, however, been a corresponding decrease in the environmental and social impacts of these mega-projects internationally, and particularly in the Global South (Goldman 2006; Carr 2016). After the initiation of formalized EIA requirements at the World Bank, lending for Category A projects increased from 11% of the World Bank's non-structural adjustment portfolio in 1991 to 24% in 1995, due predominantly to a shift towards capital intensive projects within the Bank (Goldman 2006). This trend has largely continued, with Category A projects continuing to comprise a major percentage of the World Bank's non-structural adjustment lending. The orientation of this global contracting industry, the mega-project investors, and the now neoliberal states is towards the facilitation of foreign investment in these large projects, which requires managing public perceptions and legitimizing environmental and social impacts.

The oil and gas industry, as one of the industries most prone to large-scale environmental and social impacts and the visible global responses to those impacts, and one of the primary sectors

[38] Rachel Carson's *Silent Spring* (1962) documenting the indiscriminate use of pesticides is often given pre-eminence in the history of pressure leading to the passage of the NEPA.

of the expansion of mega project finance globally, provides a stark case of the FDI facilitation functions of EIAs. At the frontier of this industry, in the emergent oil and gas fields of eastern Africa, these relationships become most clear. Oil companies flocked to Mozambique from 2005 onwards and have now found one of the largest gas fields in the world.

EIAs have been conducted in Mozambique since the late 1980s. Initially these EIAs were requirements of donors for projects they funded, particularly by the World Bank starting in the 1990s. Within Mozambican law, the first EIA requirement was in the 1993 Investment Law, article 26 (Taibo 1999). It was later included in the draft Environmental Law of 1994, although not as a requirement, and in the responsibilities of the Ministry for the Coordination of Environmental Actions (MICOA, Presidential Directive 2/94 of December), and the first National Environmental Law of 1995 (Resolution 5/95 of August) (Taibo 1999). The EIA process was only legally required across all sectors and inclusive of private and public projects as of the 2004 Environmental Law (Taibo 1999, Decree 45/2004 of 29th September). Due to the rapid increase in donor projects in the late 1980s and 1990s, there were sufficient EIAs conducted during this period to drive the formation of a domestic environmental consulting sector within Mozambique that partnered with the already giant international environmental consultant industry.[39]

Since their initial mention under the 1995 Environmental Law, the requirements and regulations for Environmental Impact Assessments have been modified at least eight times, primarily to simplify, reduce costs, and shorten the time-frame of the EIA requirements for investors. These revisions have included the passage of the Regulations for the Environmental Impact Assessment Process (Decree 76/98 of 29th of December), the initiation of environmental auditing guidelines with Decree 32/2003, the revision of the core EIA regulations with Decree 45/2004 of the 29th of September, Ministerial Decree 129/2006 of 19 July setting general policy for EIAs by MICOA, Ministerial Decree 130/2006 of 19 July setting policy for public participation within the EIA process, another modification of the core EIA regulations in 2008 (Decree 24/2008 of the 4th of November), the 2009 Environmental Regulations for the Petroleum Industry, and the 2014 Resettlement Act.

The environmental regulations for nationally important sectors, including oil and gas, supersede the core EIA regulation and often have shorter time-frames. Thus while the standard time frame for public comments for Category A projects is 30 days in the current EIA regulation, EIAs for the oil and gas industry only need to provide fifteen days for public comments (Environmental Regulations for the Petroleum Industry). Some of these modification added new requirements to the EIA process, some clarified procedures (e.g. participation), but the overall trend has been towards shortening the time frame for investors to gain their required environmental licenses.

In effort to cut the overall time frame, all time-lines of public participation within the process have been shortened. In 2015, Mozambique initiated another modification of its EIA regulations, again effectively shortening the time-frame for gaining an EIA license. The biggest change proposed in the new EIA regulations was to add a category A+ to cover the largest, most

[39] Several of the environmental consultants interviewed in 2008 and 2009 noted that early 1990s donor requirements for projects they financed were the reason they started their consulting businesses.

complicated Category A projects, maintaining the same time frame as currently exists for Category A projects. However, Category A projects that do not fit within that new category (the majority) will now be subject to shorter public comment periods and less participatory feedback. This occurred at the same time as the World Bank was revising its social and environmental safeguards to rely more on national standards.

Despite these increasing time-constraints, the rhetorical purpose of EIAs is to mitigate serious environmental and social harm from a project, yet there is no evidence in Mozambique of projects halted due to unacceptable and unmanageable environmental or social impacts. If the intent of EIAs/SIAs were to objectively assess the potential negative environmental and social impacts of a project, with the expectation that occasionally these impacts would be found to be too severe either to allow the project to go forward at all, or within the financial feasibility calculations of the project investors, than we would expect to find cases of projects where the EIAs resulted in the termination of the project. Yet the only projects in Mozambique that have ever been stopped were not due to EIA processes. A pesticide incinerator[40] in Matola was stopped due to resistance from a large social movement; a paint factory in the tea plantations in the mountains of central Mozambique was halted due to conflict between prominent political figures that held interests in the tea field[41]; and a coal barge project was halted by the government of Mozambique despite the fact that MICOA had issued the environmental license, also for political reasons.[42]

EIAs are therefore serving two unspoken functions in Mozambique: a revenue source for the domestic and international environmental consulting industry; and the management and pre-emption of dissent against mega-projects by national civil society and the people living at the sites of these projects. Putting aside an analysis of the political economy of the environmental consulting industry for another time, the primary tools through which the EIA system functions to pre-empt dissent against these mega-projects are the binding of the EIA process within the financial and time constraints of the investment contract, and the use of "multi-stakeholder," "public participation" processes to obscure and market the project to local people.

CONTRACTUAL LIMITS

The environmental impact assessment process begins at a stage in the investment negotiation process where it is already limited to minor (in cost and time) alterations to the project design, if any. Only after the exploration and production sharing contracts have been signed does the environmental impact assessment process begin. By the time EIAs are initiated, therefore, any breach of these contracts must either be settled directly with the investor, through a tribunal set up as part of a Bilateral Investment Treaty (BIT), or through the International Court for the Settlement of Investment Disputes (ICSID).[43] Thus there are cost boundaries limiting any fundamental changes to the project as proposed in the investment contracts. It is from this

[40] This incinerator was to dispose of highly toxic, obsolete pesticides imported from Europe, primarily.
[41] Interview with manager from Department of Environmental Impact Assessment within MICOA, 2007.
[42] Interview with environmental consultant with several decades of experience in Mozambique, 2009.
[43] ICSID is an arm of the World Bank, to which Mozambique is a signatory. Mozambique has also signed numerous BITs with the U.S. and other countries in which the gas industry investors are based.

structurally constrained starting point that the environmental management process for the oil and gas sector in Mozambique must be seen.

Within the public participation meetings, the boundaries around what can be discussed, questioned and challenged are also constrained. The project is presented as a *fait accompli*, and discussion of whether the project should be approved at all is not allowed. The environmental impact assessment for Anadarko's Shallow Water Seismic Program in Block 1a states clearly: "The "No Action" alternative represents a failure to meet the requirements of the EPC between AMA1 and the Government of Mozambique." (Final EIA for Shallow Water Seismic Program in Rovuma Area 1A, Part II, Chapter 3, section 1.1, pg 3-1, 2008). A major outcome of contractual constraints to the EIA process in Mozambique is that despite the EIA purportedly allowing for an evaluation of potentially "fatal errors" in a project proposal and thus denial of an environmental license, environmental consultants have never recommended the halt to a project. Projects that have been halted on supposedly environmental grounds have always been subject to other pressures, be it social movements in opposition, political conflicts, or changes in the financial situation of the project proponents.

Officials within the ministry of environment, the state oil company, and the national institute of petroleum do not reference the evaluation of alternatives to a project, whether in alternative locations, using alternative designs, or not doing the project at all, as a purpose of the EIA process.[44] Instead, they state that the purpose of the EIA is to allow a project to move forward while minimizing its negative impacts and maximizing its positive impacts. This claim was repeated among government officials at the province and district levels as well. Environmental consultant companies argued that projects for which they conducted EIAs were not a *fait accompli* as their very decision to accept the EIA contract was predicated on their prior analysis of whether the project would have any fatal errors. This would all have to be done before any actual field analysis or detailed evaluation of the project, however.

The structural constraint to the EIA process, yet the legal requirement to conduct them reinforces the fusion of state, investor, and consultant. The project proponents choose the environmental consultant company from a list provided by the state to do their work, and through the environmental consultants, choose the community members and civil society groups to "consult" with as part of the mandated public participation process, and manage the consultation process. The state, investors and environmental consultants operate together to de-emphasize and minimize negative project impacts, construct, magnify and spotlight project benefits, and associate the investor and state within the rural communities at the sites of these projects to minimize attempts to break out of this script. The vast majority of this "work" to pre-empt dissent occurs within the set of multi-stakeholder meetings for the EIA.

LEGITIMIZING IMPACTS AS AVOIDABLE OR INSIGNIFICANT

[44] Interviews with officials in MICOA, INP (National Institute of Petroleum) and ENH (National Hydrocarbon Company), 2009

Table 1: EIA cited benefits, costs and mitigatory actions

	Cited Minor or Insignificant Potential Impacts	Cited Moderate Potential Impacts	Cited Severe Potential Impacts	Cited Mod or Major Potential Impacts Post-mitigation	Cited Fatal Errors to Project
Shallow Water EIA - Area 1[45]	57	38	2	0[46]	0[47]

The oil and gas industry is a heavy industry, and it has documented and large environmental impacts, particularly when not effectively regulated (Sawyer 2001; Okonta and Douglas 2001; Okoji 2000; Ikporukpo 1983). The upstream side of the industry's activities, although less studied, likewise includes large-scale impacts. These include seismic impacts on marine organisms, potential blowouts from exploration drilling, and impacts on benthic organisms from the dumping of drill cuttings and produced water into the ocean around drilling rigs. Impacts from the seismic exploration programs in the north of Mozambique from 2006 onwards have included large-scale fish and mollusk deaths within seagrass beds over which seismic sound sources were fired, marine mammal deaths, a possible triggering of a red tide, and as-of-yet unknown impacts from an oil spill during a drilling operation. To treat this industry as if it were inherently clean is to ignore a century of evidence otherwise.

The EIA process therefore serves to rationalize and legitimize these impacts as avoidable or insignificant. Table 1 compiles the number of impacts listed by the Final EIA for Shallow Water Seismic Program in Rovuma Area 1A (2008). It reveals that only two impacts were considered "severe," the threat of an explosion from support operations during seismic exploration[48], and the environmental impact from placing a drilling rig directly on top of seagrass beds or coral reefs. These impacts are straw men, as neither is likely in the context of the particular program. Marine seismic operations use air guns which operate with compressed air, not explosives, so including the possibility of an explosion during seismic operations misleading. The drill site was located two miles offshore, beyond the continental shelf, seagrass beds and the outer reefs, so there was no possibility of placing a drilling rig directly on top of a seagrass bed or coral reef. The EIA marked the impacts of an oil spill as "minor to major"[49] due to the minimization of the probability of a spill, yet a spill occurred during a drilling operation in 2014 (AIM 2014). Once mitigatory action was considered, the EIA concluded that there would be no remaining impacts of moderate or major significance.

[45] EIA for Shallow Water Seismic Program, Area 1, 2009

[46] This is particularly interesting given the documented long-term impacts of large oil spills even with mitigation actions (e.g. Exxon Valdez, BP Gulf of Mexico)

[47] The EIA stated that they were contractually bound to not find fatal errors with the project as the exploration and production concession contract had already been signed with legally binding investment levels and schedule included (Final EIA for Shallow Water Seismic Program in Rovuma Area 1, Part II, Chapter 3, section 1.1, pg 3-1, 2008).

[48] This potential impact was marked as "moderate to major" in impact scale, but for the sake of this analysis was included in the "major" column of Table 1.

[49] In Table 1 these were counted as "moderate".

The structure of the EIA process itself also limits discussion of any potential impacts to a static snapshot of a particular subcomponent of a particular phase of exploration or development. An outcome of these process constraints is that large and cohesive development models, programs and projects are broken up into their smallest constituent components and then evaluated solely within the framework of that particular set of issues. Within the multi-stakeholder meetings, this constrains any discussion of what a particular development path, program or overall investment might mean for a region or the country itself and thus sidesteps broader critiques of these pathways that may very well arise in local communities. This also avoids any consideration of how the impacts of a particular program or phase of exploration or development may contribute to the cumulative impact load on ecosystems and community livelihoods.

The reduced time-frame of EIAs drives a socially and environmentally reductionist assessment process. Due to these reduced time-frames, assessment of the potential environmental and social impacts of a project generally happens within a month or two timeline. The reports thus present a static snapshot of environmental and social systems that are dynamically tied to changing seasons, annual shifts in ecosystems and resource availability, and year-to-year changes in access to livelihood resources due to political and economic shocks and biogeoclimatic changes. Thus any assessment of impacts under dynamic or changing conditions is omitted from these assessments.

These constrained time-frames can also force assessment before the details of the project are clear. One EIA was conducted before the final locations of either the seismic lines or the drill sites were known. It was argued by the consultants and primary concession holder that this was in part to allow the results of the sensitivity mapping to be incorporated into the siting determination (Impacto 2008a). The idea behind the sensitivity mapping was to establish zones where activities would not be allowed as well as zones where industrial activities could be licensed without requiring an EIA for each project. This is a similar process to the "categorical exclusions" provided by the United States Mineral Mining Service to oil companies in the Central and Western Gulf of Mexico before the B.P. Deepwater Horizon spill (U.S. Department of the Interior 2004: Chapter 15; U.S. Council on Environmental Quality 2010).

The establishment of the relevant social and environmental baseline becomes equally constricted. For the northern coastal areas of the gas exploration programs, as there was very little baseline information on the coastal ecology, fish catches and livelihood structures, the first EIAs conducted in this region have become the baseline data for subsequent EIAs. The EIA consultants themselves admit there is little scientific environmental baseline information for this region of Mozambique, and little information on rural livelihoods and community natural resource dependencies.[50]

The time-frame of the EIAs necessitated a very limited snapshot of the social and environmental context of the concession areas. Seasonal patterns, multi-year variations, and anything beyond short-term impacts were not included in these analyses. As noted above, there was a detailed "sensitivity mapping" conducted of coastal environments in this region as part of the process for

[50] Interviews with EIA consultant company representatives in Maputo, 2008 and 2009.

determining where seismic lines would be moved for the shallow water seismic program, but this was primarily a satellite imagery analysis – again a temporal snapshot of the coastal ecosystem. This limited data was then used as the baseline for the first national Strategic Environmental Assessment, which was conducted by the same environmental consultant company as had conducted several of the oil and gas exploration EIAs in the north of Mozambique.

The contractually constrained process, the reductionist nature of the assessments, and the investor defining relevant baseline information therefore lead to a check-boxing of environmental and social impacts rather than an assessment of cumulative and synergistic impacts. The environmental consultants construct a limited spreadsheet of potential impacts, significance and scale of those impacts, and methods to mitigate them, but these are limited to components that have little to no cost impact on the project proponents. Environmental and social concerns raised by communities or others at the mandated public participation meetings are relegated to a public comment annex of the EIA where a limited subset of the comments that emerged at the meetings is recorded. Some of the comments by more powerful stakeholders (e.g. national and international NGOs at provincial capital meetings) are addressed by the consultants, generally with a generic note that the concern has been taken into consideration or referencing a section of the EIA they state addresses the concern. Civil society groups, tour operators, and academics involved in these meetings since the early 1990s reported consistently criticizing the lack of incorporation of their comments and concerns, some to the extent that they have stopped participating in the meetings at all.[51]

Once the EIA is accepted, and the Environmental Management Plan (EMP) initiated, the same consultant company handles the EMP, and there is no outside, independent monitoring of its implementation. This results in little incentive to stringently enforce any minor mitigatory strategies that made it through the above constraints to the EIA process. For example, the proposed seismic line avoidance of coral reefs and seagrass beds resulting from a "sensitivity mapping" of coastal ecosystems were reportedly ignored by the seismic operator, and many more lines were cut than were revealed in the approved EIA.[52] An environmental NGO offered to raise money for and put together a multi-stakeholder scientific team to evaluate the real-time effects of the seismic exploration on coastal marine life, but the project proponent refused.[53] Additionally, the closing report for the EMP for the shallow water seismic program reported that fishing continued as if there were no seismic program (Impacto 2009c) while 90% of fishermen interviewed immediately after this program stated they avoided fishing entirely, or severely cut back on days they fished as a result of this program.[54]

[51] Interviews with civil society representatives, faculty at the University of Eduardo Mondlane, and tour operators near two national parks, 2008 and 2009.

[52] Final EIA for Shallow Water Seismic Exploration, Area 1, 2009 vs. interview with government official involved with EMP meetings.

[53] Interview with tour operator, 2009

[54] Interviews with fishermen along northern coast, 2009

CONSTRUCTING THE FACADE OF OIL-LED DEVELOPMENT

Contrary to the reductionist discussion of negative impacts, when discussing potential benefits of the oil exploration programs, the project investors and consultant companies often went beyond the particular seismic program in discussing possible job benefits, social programs, and national development that might result from further work or an oil discovery.[55] An attempt is made during the public participation meetings to impress upon the communities the awesome scale and modernity of the exploration programs. During the EIA meetings with community authorities for the initial seismic programs along the northern coast, the environmental consultants spent considerable time describing the size, scale, technology and cost of the giant seismic vessels that would be traversing the coastal waters.[56] The messages which emerge from these presentations are: 1) the huge vessels are dangerous and should be avoided by fishermen; and 2) the oil companies are bringing money, 'progress,' and 'modernity'.

The most consistent promise of the industry and the government in support of these investments is that they will generate economic opportunities for Mozambique, and in particular, the people living at the sites of the programs. In this arena, the state has taken the dominant role in promoting the jobs that will arrive with oil and gas development and the "jobs as development" rural development script. Community members at the sites of the seismic programs along the northern coast consistently reported promises of jobs made by local administrators, or the investors and environmental consultants. For one program, there were a hundred or so temporary construction jobs during fabrication of the temporary project base. The program lasted for several months and this base was then dismantled. The resulting awareness within the surrounding community of the ephemeral nature of these "jobs" generated substantial discontent with the program.[57]

Attached to the legitimizing promises of jobs are the promises of social programs and community projects that will be funded by the oil investments. These social programs count as compensatory measures within the investment laws of Mozambique, and thus have been used as substitutes for more direct compensatory actions (Law No. 3/2001; Decree 45/2004 of 29th September). They also serve to promote the rhetoric of development that is more generally associated with mega-project investment nationally and spread to rural areas through constant reference to alleviations of "pobreza absoluta" on Radio Mozambique.

In other extractive state contexts, social programs at the sites of oil extraction have often shared the characteristics of being: 1) highly visible; 2) cheap compared to the alternatives of direct compensatory measures for oil impacts on livelihood resources, health; and 3) fusions of state and investor relationships with local communities (Zalik 2004). Social funds in Mozambique, however, add to this equation slightly. In addition to being highly visible and fusing investor and state interests, they often take the form of infrastructure projects that benefit the company's operations beyond their legitimizing power for local communities. For instance, one company

[55] Personal observations in public participation meetings for seismic exploration EIAs in Mozambique.
[56] Personal observations in the public participation meetings for the Shallow Water Seismic Program in Area 1, 2008.
[57] Focus group discussions with community members in Palma, 2008, 2009

funded the extension of Radio Mozambique to the northern coast of Mozambique, which it then used to broadcast the location of the seismic vessel so fishermen would stay out of the water. Another example was the paving of roads along the northern coast which several companies required to ship their machinery for its operations.

Because of environmental consultant and oil investor desire to minimize direct compensatory liabilities with community members, and state interest in large and visible symbols of 'development', a majority of oil and gas investors opted for community compensation instead of individual. One environmental consultant argued that the oil investors were aiming to make individual compensation nearly impossible, as "fishermen did not need to fish every day" and thus were not owed any compensation.[58] While technically each company had a compensation plan that allowed for individual compensation, oil companies have taken a harder line on compensation, requiring stringent proof that any fishermen claiming compensation was prevented from fishing specifically by the seismic vessel, not registering potentially affected parties, and using government channels to inform communities about compensation mechanisms. Fishermen have to prove how many days of fishing were directly interrupted by the seismic vessel by getting a notification from a vessel that they encountered telling them to leave the area, or at the very least pictures, and presenting these to the office in the provincial capital or to the District Administrator (Impacto 2009a).

As fishermen were told to stay out of the water during the seismic programs, most fishermen did not go out to sea and thus had no chance of running into the vessel, and thus no chance of documenting communications with the vessel telling them to leave the area. By following the directions they were given by their neighborhood secretaries, which were given to them by representatives from the consultant company and the oil company, the fishermen were not able to make any claims for compensation, and the companies avoided all compensatory claims. This also reveals a common component of the neoliberal transformation of rural livelihoods, the use of livelihood diversity as an informal subsidy to investors, as they use this livelihood diversity as an excuse to avoid compensation or to pay lower wages or even to consider the socioenvironmental impacts of their operations.[59]

'PUBLIC PARTICIPATION' AND THE MANAGEMENT OF DISSENT

It is at the "multi-stakeholder" meetings for the EIA process that the state reinforces its legitimacy to local people through promises of development and progress aligned with the investments; the industry manicures its legitimacy within the boundaries of its cost structures in order to facilitate smooth extraction; and people living at the project sites struggle to voice concerns in the face of a pre-determined project. Using these meetings as a marketing platform, they are designed to obscure the negative impacts of a project, present and reinforce the story of the industry as bastion of "development" and "progress", and architect distance between its operations and local people through a fusion of the state and industry at the sites of operation. The latter two of these functions involve constructing a mutually reinforcing legitimacy for the

[58] Interview with environmental consultant for the oil and gas industry, 2008.

[59] For an explicit example of this among managers of maquiladoras in central Mexico, see Collins (2009).

state and industry by tying the development of the industry in Mozambique to the rhetoric of "poverty alleviation" and "development" already promulgated by the state.

The symbiosis between rural authority and rural extractive investments has evolved since the initiation of colonial indirect rule to pre-empt, fragment and manage dissent among rural communities facing extraction. As extraction and rural authority have co-evolved, the structural outcome of this history has been the function of rural authority to facilitate extraction with minimal conflict. Under the neoliberal transformation of the Mozambican political economy since 1986, this function has been mobilized in service of foreign direct investment, typically in large-scale extractive industry projects.

Table 2: EIA "Public Participation" Meeting Issues

	AMA1 Palma Meeting (District Headquarters)	AMA1 Mocimboa da Praia Meeting (District Headquarters)	AMA1 Pemba Meeting (Provincial Capital)
Open to Public?	No[60]	No	Yes
Presentation of impacts	Cursory	Cursory	In-depth
Benefits Discussed	Yes	Yes	Yes
Association of Government with Project Proponents in Meeting?	Yes[61]	Yes[62]	No[63]
Open discussion by participants of potential problems with project?	No	No	Yes[64]

At the sites of the exploration programs, within the 'public participation' process of the EIAs, the exercise of power operates in some identifiable ways to legitimize the oil operations and de-legitimize dissent. These processes function to create a "buffer zone" of control between the investors and the local population, with the government as the enforcers of that buffer and the

[60] Only the neighborhood secretaries and consultative council were invited to the two district meetings, not the entire community

[61] The meeting was held at the District Administrator's hotel

[62] The District Administrator introduced the meeting by referring to AMA1 as "our Mozambican company"

[63] Meetings at the provincial capitals and national capital included government officials in the audience, but not generally at the head table

[64] Predominantly by members of civil society and NGO groups that were present

EIA consultant companies as the conveyors of these implicit power relationships. These processes manage this by regulating the spaces of participation to fall within the hierarchical lines of the rural authority system in place, both benefiting from that hierarchy in terms of the understanding of the investors' place at the top of that hierarchy, as well as reinforcing the hierarchy itself through the connection with the industry, its new infrastructure, technology and heightened visibility of its large-scale operations.

Community leaders that had attended district meetings like those listed in Table 2 reported in a private focus group[65] that they saw these meetings as places where they were told by their superiors what to communicate to the communities and fishermen, specifically. They did not report seeing these meetings as places where they were encouraged to voice any concerns they had, as their superiors were always present and they feared reprisal if they openly criticized a project being promoted by the government. When asked how they communicated any problems brought up by members of their communities in reference to the seismic or drilling exploration, they stated that they did not, as they were not supposed to criticize government. Community leaders interviewed individually all along the northern coast reported the same reticence to complain to their superiors about the seismic or drilling programs.[66] In one community, despite the leaders and the fishermen of the community believing they were owed compensation for lost fishing days during the seismic program, none reported having told the head of the Administrative Post, the District Administrator or the local branch of the Institute for Small Scale Fisheries that they had not received any compensation.

This reticence to complain to government or criticize projects seen as promoted by government aligns with the World Bank's cooptation of "free, prior and informed consent" to "free, prior and informed consultation." Civil society demands for increased participation in development decisions affecting communities globally has been for "free, prior and informed *consent*." This would imply that communities themselves would have the power to approve or deny projects that directly impacted their lives and the environments upon which their livelihood depended. However, the World Bank, states and industry faced with these challenges morphed the demands into the phrase "free, prior and informed consultation". Consultation requires little besides a discussion of a project and a register of responses from those informed.

Within Mozambique this has taken the form of public stakeholder meetings attached to the EIA process that are effectively lectures on the benefits of a project. This one-way communication is an inherent part of the system, not an implementation failure. In order for communities to truly have free prior and informed consent, they would have to have the power over the fate of the project. Government officials argue this cannot be allowed, as mega-projects are in the national interest, if not national security interests (as fossil fuels are often treated).[67]

[65] I conducted a focus group of community leaders in private (in a home), as they feared reprisal if their critical views were traced back to them

[66] Interviews conducted with community leaders in 15 coastal communities in 2008 and 2009.

[67] Interviews with MICOA and INP officials, 2008 and 2009.

Table 3: EIA "Public Participation" Meetings

Meeting	Date of Meeting	Location	Invitees	Critical Questions from Participants?
AMA1 Shallow Water Seismic Public Participation Meeting	April 2008	Palma (District Headquarters)	District Administrator; Administrative Post Head; Neighborhood Secretaries; Consultative Council	0
AMA1 Shallow Water Seismic Public Participation Meeting	April 2008	Mocimboa da Praia (District Headquarters)	District Administrator; Administrative Post Head; Neighborhood Secretaries; Consultative Council	1
AMA1 Shallow Water Seismic Public Participation Meeting	April 2008	Pemba (Provincial Capital)	Provincial government; Select civil society groups	5-10

Beyond semantics, however, the state, investors and environmental consulting companies carefully manage the public participation processes surrounding the gas exploration programs to simultaneously maximize development legitimacy and minimize opposition to the projects. As shown in tables 2 and 3, the participation process within the EIAs for the Cabo Delgado oil and gas exploration programs involved meetings in the provincial capital of Cabo Delgado (Pemba), and at the District Headquarters in the zones of the concessions. For the earliest exploration program along the coast (2006), meetings were held in Pemba for the draft Terms of Reference (TOR), the draft Environmental Pre-Viability and Scoping Report (EPDA), and the draft EIA. In the communities at the sites of exploration, however, people reported that meetings were only held at the district headquarters twice, once to inform the communities when the seismic vessel would be passing close by and when the fishermen would have to stay out of the water, and once afterwards to inform the community that the program was over. These meetings were held with the community leaders and consultative councils by invitation only, not the entire community. When a large part of the community showed up to one meeting after finding out about it from an NGO, the district administrator admonished the community members, claimed they were opposing the development of Mozambique and accused the NGO of instigating opposition to the project. The consultants also claimed the NGO was instigating opposition to the project by informing community members of their right to attend the 'public' meetings.

> "They [government and companies] don't let us into the [EIA public participation] meetings, so how can we register our complaints?" (Fisherman at focus group discussion, coastal town, 2009)

Another EIA for deep water seismic included weekly "multi-stakeholder" meetings held in Pemba as part of the Environmental Management Plan (EMP), which included representatives from provincial fishing authorities, tourism operators, provincial government officials, and the company (Impacto 2008a: Vol.4 Public Participation Report). Some stakeholders, however, stated that these meetings appeared more oriented towards capturing elite stakeholders involved in the participation process than with providing a space for the voicing and resolution of genuine grievances.

It is also within these EIA public participation meetings that the association between the international oil companies and the government is first emphasized. In several district meetings regarding the shallow water seismic program in northern Mozambique, the meetings started with the District Administrators introducing the projects and the proponents, implying a direct connection between the District government and the investors. One District Administrator even introduced the company as "our company" at the initiation of one of these meetings.[68] One of the companies in the north hired a permanent secretary of Frelimo (the ruling political party) as their community liaison officer. Given the historic rigidity of local administrative hierarchies in Mozambique, this blurring of the lines between the local authorities and the investor made community leaders and neighborhood secretaries hesitant to share the discontent and grievances their community members expressed regarding the seismic programs.

The environmental consultant companies were conscious of the implications that introduction from the District Administrators carried, and thus made attempts to avoid this in the provincial capital where NGOs and civil society groups would likely have complained about conflicts of interest (see Table 2). This was not the case in the rural towns, however, and thus the invited neighborhood secretaries, themselves the lowest recognized level of the government, were clear on their roles in the meeting. They were tasked at the end with "disseminating" the information they had been presented to their constituent communities.[69]

This association of the investor with the state served to mobilize fear or 'respect' of rural authorities in support of investor operations. This manifested in several ways. It restricted general criticism of the project, at least publically, and it facilitated the avoidance of any claims for direct compensatory individual compensation on the part of fishermen, even those that had encountered the seismic vessel while actively fishing. While fishermen interviewed after the seismic program in affected communities believed they were owed compensation, they did not file for individual compensation primarily because they did not know they could file a claim with their local neighborhood or village administrator, or were fearful of retribution from the administrator or other officials if they did so. On the island of Ibo, fishermen did not even want

[68] In one sense the Administrator was correct, as the national petroleum company (ENH) holds a 15% share in the project, but the direct implication was that despite there being a public "consultation" meeting, the project was important to the government and thus should be welcomed and not challenged.

[69] Personal observation at district meetings, 2008.

to ask for compensation months after the program, as they did want to bother the administrators.[70] Those fishermen that did not listen to the radio announcements and communication team telling them to stay out of the water during the days the seismic vessel was in operation were often going fishing against the will of their neighborhood secretaries, administrative post directors, and district administrators, given these members of local government had agreed to keep fishermen in their communities out of the water when instructed. As these were the same people with whom the fishermen were supposed to file requests for compensation, the fear of retribution likely had a significant impact on those few fishermen who knew of the compensation process.

> "We don't complain to government, because either we will be mistreated for complaining, or the government are the ones that made the decision [that caused the problem] in the first place" (Neighborhood Secretary[71], coastal village, 2008)

The tendency to avoid complaining to government about needs was explained as due to the fact it was not appropriate for 'common' people to complain to government. There was some faith that the government would eventually come through, but people would not, on their own, approach any official to lodge a complaint about the lack of compensation to date.

> "We have not told anyone about the lack of compensation because we are still waiting on the government." (fisherman, coastal town, 2008)

The fishermen on Ibo stated that each day they stayed out of the water, they believe they would be compensated by the company, either through their neighborhood secretaries or through the local IDPPE office. Many fishermen were still waiting for this compensation nearly a year after the program ended, yet had not lodged any complaints with their neighborhood secretaries or with IDPPE or the district administrator. This was also true of the 2009 seismic program further north, as despite lost days of fishing for many of the communities interviewed, no one registered a formal request for compensation (Impacto 2009c).

CONCLUSION

With the upswing in oil and gas investment in Mozambique, the implementation and then re-construction of EIA regulations by environmental consulting companies, the oil investors and the state have developed a highly sophisticated consultation process designed to pre-empt dissent by: tightly binding the whole process within investment contract obligations; minimizing acknowledgement and discussion of exploration program impacts; constructing a beautiful

[70] Ibo was a district headquarters, and thus had a resident district administrator, and more formal government hierarchy than smaller coastal towns.

[71] To protect the identity of the interviewees, names and specific locations have been omitted. Additionally, while this informant was himself a local authority for the government as a neighborhood secretary, when he noted not complaining to "government," he was referring to the lower levels of the formal state administration, which at the rural town level includes heads of administrative posts, and possibly District Administrators, if located in a district headquarters.

façade of benefits promised to communities; and mobilizing rural authority and state-investor relationships to further restrict criticism.

To manage this, each of these actors manages a portion of the script. The state maintains a weak environmental regulatory body to promote a façade of checks and balances within the system, associates its dominant development scripts with the outcomes of the investment, and mobilizes rural authority and coercion to confine participation. The investor restricts access to its operations to limit environmental monitoring, makes promises of future money and progress in line with the state's scripts of 'development' and 'progress,' and funds several highly visible projects in rural areas as testament to these promises. The environmental consultants design the meetings and participation process to move focus from potential negative impacts to potential positive impacts, make visible both investor and state promises of 'development' and 'progress', and convey the implicit power relations underlying the fusion of investor and state to restrict dissent.

Interesting in this process is that other states have opted for far more coercive relations between the state, investors and communities at the sites of oil and gas developments. While Nigeria nominally has an EIA process, the state has historically managed relationships between communities and investors through the use of private security forces (Okonta and Douglas 2001). Chad, while participating in the most comprehensive civil society-state-investor dialogue as of the initiation of the Chad-Cameroon Pipeline project, has since opted for direct military control over operational sites. Ethiopia also opts for direct military control over potential oil and gas areas, as seen in the Ogaden, Gambella and South Omo regions. The only other country in the region to engage in this level of EIA legitimation is South Africa, but that is in the context of a much more historically organized urban labor force and civil society.

So why do we see this extent of legitimation in the emergent gas fields of northern Mozambique? Three forces serve as the primary contributive factors to this development. First, the legacy of the sixteen year civil war which ended in 1992 has meant a greater awareness among Frelimo, the ruling party, of the problematic outcomes of direct uses of military force. Second, neoliberal decentralization reoriented rural authority systems back to their colonial functions legitimizing extraction, which along the northern coast fused with loyalty to the independence party (the birthplace of the independence struggle) to generate ideal conditions for non-coercive exercises of rural authority. Third, the emergent environmental consulting industry of South Africa saw the potential market for EIAs in Mozambique and set up several Mozambican consultant companies to further push for these processes.

The system does not operate as a perfect tool of consent, however. As impacts from seismic programs have increased, the presence of the oil companies and consultants has expanded, and compensation for lost fishing days and fisheries impacts has not been forthcoming, coastal communities have begun to bypass these mechanisms of control and express dissent. Several meetings regarding the planned resettlement of 10,000 families for the LNG plant have been crashed by the entire community despite restrictions to consultative councils, and discontent has been increasingly aimed at the District Administrator. The government has developed a resettlement plan to attempt to manage some of this dissent, but discontent among the community is still growing. With the government already mortgaging future gas production

revenues for billions in secret loans from Credit Suisse and other global investment banks, and Renamo claiming unfair awarding of gas contracts to Frelimo-connected companies, the limits to this sophisticated pre-emption of dissent may already be appearing.

With or without this process, however, the environmental and social impacts from the development of the third largest liquid natural gas plant in the world will be the same. As the whole process is designed to rationalize and legitimize projects, the very real impacts of such a large, heavy industrial extractive development in an area of already vulnerable and strained coral reef and seagrass fisheries are unlikely to be avoided.

CONCLUSION

The triggers for the creation of petro-states have deep political and economic policy roots, and are not just symptoms of revenue flows "corrupting" governments "pre-inclined to predation" or "rent-seeking" behavior. These roots can be traced back to the colonial re-structuring of states to serve foreign extraction and the neoliberal renewal of those colonial models. Additionally, the political, economic, environmental and social crises oil and gas development generates for communities living at the sites of extraction are contingent upon state-capital fusions at the local level, not just the state level. Where coercive force is not the "best" option for investors and states looking to secure the local sites of their extraction, more sophisticated systems of legitimation have emerged to manage dissent. In Mozambique, this has predominantly involved the "multi-stakeholder," "public participation" processes of environmental impact assessments.

The research presented in this dissertation reveals the initiation of Mozambique's transformation into a petro-state as it has played out among rural fishing communities living at the sites of the exploration programs. It demonstrates that the emergence of the social, environmental, political and economic crises in new petro-states is not purely driven by massive revenue flows or the geopolitics of oil, but the prior political economy of the institutions guiding that development. In particular, it reveals how the neoliberal re-orientation of the state towards facilitation of foreign-direct-investment (FDI) applies even to the most local forms of state authority at the rural sites of FDI projects.

The co-evolution of rural authority and natural resource extraction from the colonial era onwards has led to the current state of neoliberal decentralized authority operating quite literally neo-colonial in its functions. Rural authorities and "traditional authorities" now serve many of the exact same functions they did under colonial rule. Specifically, these authorities have returned, to varying degrees, to neocolonial functions of disciplining the rural populace, facilitating labor and right-of-way requirements for natural resource extraction, and managing dissent. For dissent, specifically, these authorities now work with the investors and central government to establish the legitimacy of FDI projects, in this case oil and gas projects, in the eyes of communities living at the sites of these projects.

The real-time evolution of social and environmental impacts from oil and gas exploration programs overlays already strained socioeconomic and environmental systems. The cumulative impacts of the seismic operations are serious considering the growing vulnerability of marine resource livelihoods in the region and the renewed neocolonial function of rural authorities in pre-empting dissent rather than representing community concerns to higher authorities.

This pre-emption of dissent -- or attempted pre-emption -- is interesting in the context of an emerging petro-state, as often at this stage of exploration, oil companies and states do not concern themselves much with the approval of local populations. In more mature petro-states, this level of legitimation does not often occur until oil-spill or oil revenue corruption scandals emerge, at which point it has taken the form of either military response to protest, and, only more recently, the sorts of "multi-stakeholder" meetings and dialogues evident in Mozambique. The

reasons this has emerged at an earlier phase in Mozambique are multifaceted. One, many of these projects emerged only after the end of the civil war, in 1992, at which point the World Bank, USAID and many other donors had recently adopted EIA requirements for their lending. This EIA requirement and rapid expansion of FDI "mega-projects" in Mozambique during that time also drove the formation of a domestic environmental consulting sector that had a vested interest in making sure all such projects required EIAs (beyond those just funded by donors). Mozambique's 16 year civil war also made Frelimo, the ruling party, more wary of using coercive force to establish legitimacy of the more disruptive mega-projects, and thus they relied on these multi-stakeholder processes to pre-empt and manage dissent.

The specific mechanism by which these re-envisioned neoliberal rural authority institutions function to pre-empt dissent surrounding oil and gas exploration programs are the "multi-stakeholder public participation" meetings of the Environmental Impact Assessment (EIA) process. It is within these meetings that the association of state and investor is re-enforced in rural communities. It is also within these meetings that the story of oil development and its consequences for rural communities is manicured, highlighting benefits and minimizing costs. The rural authorities present in these meetings then take these messages to the broader community in the form of declarations, but little voice flows upwards from community to state.

In 2010, Anadarko Petroleum discovered a 100 trillion cubic foot gas reserve offshore northern Mozambique, one of the largest on the African continent. Plans for a $50 billion liquid natural gas plant -- one of the largest in the world -- are progressing, only held back by the lower price of gas due to increased fracking in the U.S. The plant will occupy an entire ismuth along the northern coast and require the resettlement of over 10,000 families.

In March of 2016, $2.2 billion in "secret" loans -- not disclosed to Mozambican citizens -- were discovered. The loans were provided by Credit Suisse, one of the largest international investment banks, and VTB, a Russian investment bank majority owned by the Russian State. Loans were used to set up three new companies (Hanlon 2016). EMATUM was set up as a tuna and maritime security company. Proindicus was set up as a maritime security company for the offshore oil and gas industry. The Mozambique Asset Management company was set up as a ship repair and maintenance company (again likely to serve the offshore oil and gas industry). All three companies are owned by shell companies in-turn owned by the Mozambican government, in particular the State Security and Intelligence Service (SISE) (Hanlon 2016). The lending banks pushed for larger loans than were initially requested, mortgaged against future natural gas revenues from future production.

This secret debt situation mortgaged against future gas revenues is a symbolic moment in the creation of a petro-state. One of the most archetypal characteristics of petro-states is the boom-bust cycle amplified by debt relations. Boom periods for petro-states tend to result in large increases in private debt leveraged against assumed future windfall oil or gas revenues (Sachs and Warner 2006; Appel 2012). Military spending is another archetypal element of petro-states, and thus another symbolic element in Mozambique's induction into this group (Okonta and Douglas 2001).

Community members at the sites of the future LNG plant are beginning to voice challenges to the project, however, and are demanding free, prior and informed consent, pointing to the EIA

pre-emption of dissent being an incomplete and imperfect project. While complaints and resistance to seismic operations were minimal during the actual programs and immediately afterward, as the number of these programs in the same communities has increased, and those living at the sites of these programs are beginning to see past the manicured facade presented by the investors and the state, resistance has become more and more vocal. While fishermen along the northern coast never requested compensation for lost fishing days or complained about large fish die-offs resulting from the seismic programs, these same communities are now crashing "public" consultation meetings surrounding the proposed resettlement of 10,000 families due to a planned liquid natural gas (LNG) plant and yelling at state and oil company representatives involved in the process.

These crises were predictable. The severe re-orientation of the state towards foreign investment, "mega-projects" and extractive industries, in particular, is destined to foment resistance from those now no longer priorities. The "multi-stakeholder" dialogue process has functioned to delay this resistance, and may serve to fragment it for some time to come, but the resettlement of 10,000 families is likely to generate reaction, as is any decline in fisheries access or catches as a result of security zones and the inevitable spills. As those in communities facing these restrictions become more and more aware of the limited roles their community authorities are tasked with in this re-oriented extractive model, these institutions are unlikely to remain stable.

REFERENCES

Abrahamsson, H., Nilsson, A. (1995). *Mozambique: the Troubled Transition – From Socialist Construction to Free Market Capitalism*. London: Zed Books.

Abrahamsson, H., Nilsson, A. (1996). *"The Washington Consensus" and Mozambique*. Padrigu.

African Strategy Review Group, & Berg, E. (1982). *Accelerated development in Sub-Saharan Africa: an agenda for action*. Washington, DC: World Bank.

Agrawal, A. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. *World Development.* 27(4):629-649.

AIM (1979). An Interview with President Samora Machel. *Supplement to the AIM Bulletin of June 1979*.

AIM (2014). Mozambique: Oily Sludge Spilled Into Rovuma Basin. (2014, May 23). *Agencia de Informacao de Mocambique (Maputo)*.

Appel, H. (2012). Offshore work: Oil, modularity, and the how of capitalism in Equatorial Guinea. *American Ethnologist*, *39*(4), 692-709.

Barker, J. (1985). Gaps in the Debates about Agriculture in Senegal, Tanzania and Mozambique. *World Development*. 13(1): 59-76.

Beetham, D. (2013). *The Legitimation of Power*. 2nd Ed. Palgrage MacMillan.

Bowen, Merle L. (2000). The *State against the Peasantry: Rural Struggles in Colonial and Postcolonial Mozambique.* Charlottesville: University Press of Virginia.

Buur, L., & Kyed, H. M. (2006). Contested Sources of Authority: Re-claiming State Sovereignty by Formalizing Traditional Authority in Mozambique. *Development and Change*, *37*(4), 847–869.

Carr, C. J. (2016). *River Basin Development and Human Rights in Eastern Africa: A Policy Crossroads*. Springer.

Carson, R. (1962). *Silent spring*. New York: Fawcett Crest.

Coelho, J. P. (1998). State Resettlement Policies in Post-Colonial Rural Mozambique: The Impact of the Communal Village Programme on Tete Province, 1977-1982. Journal of Southern African Studies. 24(1): 61-91

Collins, J. L. (2009). *Threads: Gender, labor, and power in the global apparel industry*. University of Chicago Press.

Cordon, W.M (1982). Booming Sector and Dutch Disease Economics: A Survey. *Working Paper 79*, Faculty of Economics and Research, Australian National University.

da Silva, I. M., Hill, N., Shimadzu, H., Soares, A. M. V. M., & Dornelas, M. (2015). Spillover Effects of a Community-Managed Marine Reserve. *Plos One*, *10*(4).

Dinerman, A. (2004). Processes of State Delegitimization in Post-independence Rural Mozambique: the case of Namapa District, Nampula Province1. *journal of Historical Sociology*, *17*(2-3), 123-184.

Dinerman, A. (2006). *Revolution, Counter-revolution and Revisionism in Postcolonial Africa: the case of Mozambique, 1975-1994*. Routledge.

European Commission 85/337/EEC –EIA regulation

European Commission Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment

Ferreira, E. D. S. (1974). *Portuguese colonialism in Africa: The end of an era*.

Fox, J. A., & Brown, L. D. (1998). *The Struggle for Accountability: The World Bank, NGOs, and Grassroots Movements*. MIT Press.

Fry, P. (1997). *Final Evaluation of the Decentralization/Traditional Authority Component of the African American Institute's Project 'Democratic Development in Mozambique ('Cooperative Agreement #656-A-00-4029-00)*. Maputo: USAID

Gell, F. R., & Whittington, M. W. (2002). Diversity of fishes in seagrass beds in the Quirimba Archipelago, northern Mozambique. *Marine and Freshwater Research*, *53*(2), 115–121. http://doi.org/10.1071/MF01125

Goldman, M. (2006). *Imperial Nature: The World Bank and Struggles for Social Justice in the Age of Globalization*. Yale University Press.

Hanlon, J. (1990). *Mozambique: The Revolution Under Fire*. Zed Books: London/New Jersey.

Hanlon, J. (1991). *Mozambique: Who calls the shots?* Bloomington: Indiana University Press.

Hanlon, J. (1996). *Peace Without Profit: How the IMF Blocks Rebuilding in Mozambique*. The International African Institute/Irish Mozambique Solidarity/James Currey/Heinemann: London.

Hanlon, J. (2000). Power without responsibility: the World Bank & Mozambican cashew nuts. *Review of African Political Economy*, *27*(83), 29-45.

Hanlon, J. (2005). *Bringing it all together: A case study of Mozambique*.

Hanlon, J. (2016). Following the donor-designed path to Mozambique's US $2.2 billion secret debt deal. *Third World Quarterly*, 1-18.

Harrison, G. (2000). *The Politics of Democratization in Rural Mozambique: Grassroots Governance in Mecúfi.* Lewiston: The Edwin Mellen Press.

Hartman, J.B. (1987). Petroleum Developments in Central and Southern Africa in 1986. Bulletin of the AAPG. V.71, n.10b (October, 1987-part b) pp. 190-225.

Hedberg, H. (1950). Petroleum Developments in Africa in1949. *Bulletin of the AAPG*. V., n. (July, 1950), pp..d

Hedberg, H. (1952). Bulletin of the American Association of Petroleum Geologists, v36 n7 pp1395-1426, 1952.

IDPPE (2007). *Compensacao aos Pescadores.*

Ikporukpo, C.O. (1983). Petroleum exploitation and the socio-economic environment in Nigeria. *International Journal of Environmental Studies.* 21 (2): 193-203.

Impacto (2008a). *Final EIA for Shallow Water Seismic Program in Rovuma Area 1A*, 2008.

Impacto (2008b). *Abordagem, Princípios e Procedimentos de Compensação para a Proposta de Levantamento Sísmico e Perfuração em Águas Pouco Profundas: Pescal Artesanal, Operadores Turísticos, e Indústrias Seleccionadas*.

Impacto (2009a). *Report on activities developed in second stage of seismic acquisition in Rovuma offshore (Shallow waters).*

Impacto (2009b). *Anadarko Compensation Plan for Shallow Water Seismic Program in Area 1A*.

Impacto (2009c). *Closing Report for Anadarko Shallow Water Seismic EMP*.

Isaacman, A. F. (1978). *A Luta Continua: creating a new society in Mozambique*. Fernand Braudel Center for the Study of Economies, Historical Systems, and Civilizations, State University of New York at Binghamton.

Isaacman, A., & Chilundo, A. (1995). Peasants at work: forced cotton cultivation in Northern Mozambique 1938-1961. *Cotton, colonialism, and social history in sub-Saharan Africa, Social History of Africa series (Portsmouth, NH, Heinemann and London, James Currey 1995)*, 167.

Isaacman, A., & Isaacman, B. (1983). *Mozambique: From colonialism to revolution, 1900-1982*.

Isaacman, Allen. (1997). Historical amnesia, or, the logic of capital accumulation: cotton production in colonial and postcolonial Mozambique. In *Environment and Planning D: Society and Space 1997,* 15, 757-790.

Karl, T. (1996). *The paradox of plenty: oil booms and petro-states.* Berkeley: University of California Press.

Kofi, T. A. (1981). Prospects and problems of the transition from agrarianism to socialism: The case of Angola, Guinea-Bissau and Mozambique. *World Development*, *9*(9-10), 851-870.

Kyed, H. M. (2009). The politics of legal pluralism: State policies on legal pluralism and their local dynamics in Mozambique. Journal of Legal Pluralism, 59(November), 87–121.

Kyed, H. M. (2009). The politics of legal pluralism: State policies on legal pluralism and their local dynamics in Mozambique. Journal of Legal Pluralism, 59(November), 87–121.

Kyed, H. M. (2016). State Policing and Invisible Forces in Mozambique. *Africa*, *84*(3), 424–443.

Lappé, F. M., & Beccar-Varela, A. N. (1980). *Mozambique and Tanzania: asking the big questions* (Vol. 1980). Institute for food and development policy.

Le Billon, P. (2004). The geopolitical economy of 'resource wars'. *Geopolitics*, *9*(1), 1-28.

Mamdani, M. (1996). *Citizen and subject: Contemporary Africa and the legacy of late colonialism*. Princeton University Press.

Marasovic, I. (1989), Encystment and excystment of Gonyaulax polyedra during a red tide. *Estuar. Coast. Shelf Sci.*, 28:35-41

McGrew, H. J. (1984). Petroleum Developments in Central and Southern Africa in 1983. Bulletin of the AAPG. V.68, n.10 (October, 1984) pp. 1523-1599.

Mohan and Stokke (2000). Participatory Development and Empowerment: The Dangers of Localism. *Third World Quarterly.* 21(2): 247-268.

Mondlane, E. (1969). *The Struggle for Mozambique*. Harmondsworth: Penguin Books

Moody, J.D. (1962). Petroleum Developments in Africa in 1961. Bulletin of the AAPG. v.46, n.7 (July, 1962) pp.1193-1240.

Motta, H., Rodrigues, M.J., Schleyer, M.H. 2000. Coral reef monitoring and management in Mozambique. In: Souter, D., D. Obura and O. Linden (Eds.). *Coral reef degradation in the Indian Ocean (CORDIO): Status reports and project presentations 2000*. Stockholm Sweden. pp. 43-48

Mozambique 1930 Labor Code

Mozambique 3/2001 of 21 February. Petroleum Law of 2001.

Mozambique Circular 818/D-4 of 1942

Mozambique Constitution of 2004

Mozambique Decree 15/2000

Mozambique Decree 24/2004 on Environmental Regulations for the Petroleum Industry

Mozambique Decree 24/2008 of 4th November

Mozambique Decree 24/2008 of the 4th of November

Mozambique Decree 31/2012 of 8 August. Regulations on Resettlement

Mozambique Decree 32/2003. Environmental Audit

Mozambique Decree 32/2003. Guidelines for Environmental Auditing

Mozambique Decree 45/2004 of 29th September

Mozambique Decree 45/2004 of 29th September

Mozambique Decree 45/2004 of 29th September. National Environmental Law of 2004

Mozambique Decree 76/98 of 29th December. Regulations for Environmental Impact Assessment

Mozambique Decree 76/98 of 29th of December

Mozambique Law 3/93 of 24th June. *Law on Investment*.

Mozambique Ministerial Decree 129/2006 of 19 July

Mozambique Ministerial Decree 130/2006 of 19 July

Mozambique Presidential Directive 2/94 of December

Mozambique Resolution 5/95 of August

Mozambique Resolution 5/95 of August. National Environmental Law of 1995

Munslow, B. (1983). *Mozambique: the revolution and its origins*. Longman.

Newitt, M. D. D. (1995). *A history of Mozambique*. Indiana University Press.

O'Laughlin, B. (2002). Proletarianization, Agency and Changing Rural Livelihoods: Forced Labor and Resistance in Colonial Mozambique. Journal of Southern African Studies. 28(3): 511-530.

Okoji, M. A. (2000). Petroleum oil and the Niger delta environment. *International Journal of Environmental Studies*, *57*(6), 713-723.

Okonta, I., & Douglas, O. (2001). *Where Vultures Feast: Forty Years of Shell in the Niger Delta*. Environmental Rights Group/Friends of the Earth, Nigeria.

Pitcher, A. (1996). Recreating Colonialism or Reconstructing the State? Privatization and Politics in Mozambique. *Journal of Southern African Studies*. 22(1): 49-74

Pitcher, M. Anne. (1995). From Coercion to Incentives: The Portuguese Colonial Cotton Regime in Angola and Mozambique, 1946-1974. In: Isaacman, Allen, & Hay, Jean [Eds.]. *Cotton, Colonialism, and Social History in Sub-Saharan Africa.* Portsmouth: Heinemann.

Reed, K. (2009). Crude existence. University of California Press.

Rich, B. (1995). *Mortgaging the Earth: The World Bank, Environmental Impoverishment, and the Crisis of Development*. Beacon Press.

Rodrigues, M. J., Motta, H., Whittington, M. W., & Schleyer, M. (2000). Coral reefs of Mozambique. *Coral reefs of the Indian Ocean: Their ecology and conservation. Oxford University Press, New York*, 107-129.

Ross, M.L. (2001). Does oil hinder democracy? *World Politics.* 53 (April): 325-361.

Ross, M.L. (2004). What do we know about natural resources and civil war? *Journal of Peace Research.* 41 (3): 337-356.

Sachs, J. and Warner, A. (1995). *Natural Resource Abundance and Economic Growth.* Working Paper 5398. Cambridge: National Bureau of Economic Research.

Sachs, J. D., Warner, A., Åslund, A., & Fischer, S. (1995). Economic reform and the process of global integration. *Brookings papers on economic activity*, *1995*(1), 1-118.

Sawyer, S. (2001). *Crude Chronicles.* Durham: Duke University Press.

Schatz, S.P. (1984). Pirate Capitalism and the Inert Economy of Nigeria. *Journal of Modern African Studies.* 22 (1): 45-57.

Söderbaum, F., & Taylor, I. (2001). Transmission belt for transnational capital or facilitator for development? Problematising the role of the state in the Maputo Development Corridor. *The Journal of Modern African Studies*, *39*(04), 675-695.

Taibo, S. (1999). The Role of Environmental Impact Assessment in Development Projects. In: Ferraz, B. and Munslow, B. (eds.). *Sustainable Development in Mozambique*. James Currey.

U.S. Council on Environmental Quality (2010). *Report Regarding the Minerals Management Service's National Environmental Policy Act Policies, Practices, and Procedures as They Relate to Outer Continental Shelf Oil and Gas Exploration and Development*.

U.S. Department of the Interior (2004). *Department Manual Chapter 15: Managing the NEPA Process--Minerals Management Service*.

U.S. House Committee on Banking, Finance, and Urban Affairs, Subcommittee on Internaitonal Development Institutions and Finance, *Environmental Impact of Multilateral Development Bank-Funded Projects,* 98th Cong., 1st sess., 28 and 29 June 1983.

U.S. National Environmental Protection Act of 1969 [42 U.S.C. 4321 et seq.]

U.S. National Environmental Protection Act of 1969, 42 U.S.C. §§ 4321 et seq.

Uluocha, N., & Okeke, I. (2004). Implications of wetlands degradation for water resources management: Lessons from Nigeria. *GeoJournal, 61*(2), 151-154

Unruh, J. (1998). Land tenure and identity change in postwar Mozambique. *GeoJournal*. 46: 89-99.

Vail, L., & White, L. (1980). *Capitalism and colonialism in Mozambique: A study of Quelimane District* (pp. 184-5). London: heinemann.

Wanyonyi, I., Crona, B., Rosendo, S. (2011). *Migrant Fishers and Fishing in The Western Indian Ocean: Socio-economic dynamics and implications for management*. Western Indian Ocean Marine Science Association.

West, H. (2009). From Socialist Chiefs to Postsocialist Cadres: Neotraditional Authority in Neoliberal Mozambique. In: West, H.G. and Raman, P. (Eds). *Enduring Socialism: Explorations of Revolution and Transformation, Restoration and Continuation*. New York: Berghan Books.

West, H. (2005). *Kupilikula: governance and the invisible realm in Mozambique*. University of Chicago Press.

West, H., & Kloeck-Jenson, S. (1999). Betwixt and between: 'Traditional' authority and democratic decentralization in post-war Mozambique. African Affairs, 98(393), 455–484.

Wood, C. (2003). Environmental impact assessment in developing countries. *International Development Planning Review*, *25*(3), 301-321.

Wood, R. (1986) *From Marshall Plan to Debt Crisis: Foreign Aid and Development Choices in the World Economy.* Berkeley: University of California Press.

World Bank (1985). *Report and Recommendation of the President of the International Development Association to the Executive Directors on a Proposed Credit of SDR 45.5 Million to the People's Republic of Mozambique for a Rehabilitation Program.*

Zalik, A. (2004). The Niger delta: "petro violence" and "partnership development." *Review of African Political Economy*, *31*(101), 401–424.