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GENDERED SEASCAPES IN SENEGAL

by

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ABSTRACT OF THE DISSERTATION

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This dissertation posits a feminist theory of access by examining how fisherfolk benefit from sardinella (*yaboy*) in Senegal. Once a byproduct of artisanal fisheries and used as baitfish, today, sardinella is a nutritional staple and precious commodity in West Africa in both fresh and less perishable forms (i.e., *keccax*). This shift points to the historical importance of political ecologies as profoundly gendered processes that are co-produced with class and age in the studied setting of Joal-Fadiouth, an urbanizing town in the region known as *La Petite Côte*. I argue that an analysis of structure, technology and work are key to identifying when and how intersecting lines of social difference matter—and become strategic—in contestations over who is entitled to fish, and at what price. Drawing on eighteen months of ethnographic fieldwork, I analyze primary data from 125 semi-structured interviews, an in-depth survey of 93 boats owners and 5 focus groups, to triangulate original findings with internal government data sets and other secondary sources from the francophone literature that have been largely unavailable to anglophone audiences until now. This project responds to the relative lacuna in the literature on

agrarian change by excavating and specifying a seascapes framework, to highlight points of potential synergy between often parallel conversations on the dynamics of land-based and sea-based systems of production.

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When I first went to Joal-Fadiouth as a college student in 2005, women I met at Khelkom—one of the two fish processing sites in my field site—put me straight to work, cleaning and salting fish. That disoriented me in a way that I’ve been trying to make sense of ever since. Elhadj Mané, Bineta Faye, Meïssa Birama Fall, and Mouhammed Ndiaye were the most skillful diplomats in providing doctoral research assistance that I could have asked for. In Dakar, Oumar Watt and Aïssata Ba have been the epitome of *teranga* (Senegalese hospitality). Muhsana Ali and Kan-Si have shared their home with me, and over the years, I’ve had the good fortune of watching their beautiful children grow. In Joal, Ndeye Rama Camara and Pa Ibu Ndiaye have quite simply become family. Nanette Lett prepared for us the most delicious Senegalese dishes I have ever tasted. Her passing was a tragic and untimely loss, and reminds me of the limited work options available to unmarried women of a certain socio-economic status in Senegal. She is and will be greatly missed.

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DEDICATION

For Lucas, and my parents, with love.

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LIST OF ACRONYMS

CRODT (Centre de Recherche Océanographique de Thiaroye)

DITP (Direction des Industries de Transformation de la Pêche)

DPM (Direction de la Pêche Maritime)

ECOWAS (West African Monetary and Economic Union)

ENEA (Ecole Nationale de l'Economie Appliquée)

FAO (Food and Agriculture Organization of the United Nations)

Fcfa (Franc cfa, the currency of Senegal and other member countries of ECOWAS, see above)

JICA (Japanese Agency for International Cooperation)

IMF (International Monetary Fund)

IRD (Institut de Recherche pour le Développement)

IUPA (Institut Universitaire de la Pêche et de l'Aquaculture)

PAPEC (Projet d'appui de la pêche artisanale sur La Petite Côte)

PISA (Italian Program for Food Security)

PRSP (Poverty Reduction Strategy Papers)

SRFC (Sub-regional Fisheries Commission)

UCAD (Université de Cheikh Anta Diop)

UNDP (United Nations Development Program)

UNEP (United Nations Environment Program)

US (United States)

USAID (United States Agency for International Development)

USAID/COMFISH (USAID project of Collaborative Management for a Sustainable
Fisheries Future in Senegal)

USD (US Dollars)

LIST OF TERMS

Am kaya (n., Wolof and unknown): in this instance, the state of the sea having troubled waters that make fishing difficult

Borom kër (n.s., Wolof): a household head (i.e., the “owner of the house”), implicitly male

Borom negg (n.s., Wolof): a household head’s wife (i.e., the “owner of the bedroom”)

Ceebu jën (n.s., Wolof): rice with fish, esp. a fish and (traditionally, umami-flavored tomato-infused) fried rice dish served with vegetables in Senegalese cuisine

Daradia (n.s., Wolof): social prestige

Dépôt (v. as used in common Wolof-based speech): a system whereby laborers’ and owners’ shares of an enterprise are saved, usually in a locked box or bank account, until a mutually agreed time when it will be disbursed

Dërëm (n.s., Wolof): money; silver; also, a measure of money [i.e., five *francs cfa* (*fcfa*), see acronyms]

Doomu adama (n.s., Wolof): human being

Fasale (v., Wolof): to get rid of

Femme transformatrice (n.s., French): women processor of artisanal goods; also, shorthand for “*femme transformatrice de poisson*” (see below)

Femme transformatrice de poisson (n.s., French): a woman fish processor

Fila tourné (n.s., Wolof): purseseiner

Four parpaing (n.s., French): cement-block oven, or kiln

Gaal (n.s., Wolof): small-scale fishing craft; boat; or *pirogue* (see below)

Gej gi (n.s., Wolof): the sea

Gendarmerie (n.s., French): the local public authorities; the police

Guedj (n.s.pl., Wolof): a general term for artisanally processed medium- and large-bodied, bottom-dwelling fish that is cleaned, cut open and fermented in vats of salt water before being dried in the sun

Guedjkat (n.s., Wolof): an owner-operator of an enterprise producing all sorts of artisanally processed fish

Jëkër (n.s., Wolof): husband

Jën (n.s., Wolof): fish

Kamanyango (n.s., Mandinka): a gendered discourse legitimating women's claims to control the fruits of their own labor

Keccax (n.s., Wolof): a general term describing artisanally processed sardinella

Keccax avec sel (n.s., Wolof): sardinella that is braised, salted and sundried

Keccax sans sel (n.s., Wolof): sardinella that is braised and sundried (but not salted)

Kilifa yi (n.pl., Wolof): people in charge, who are respected for their moral authority; elders; advisors

Lagalagal (n.s., Wolof): a person who hustles for a living (not pejorative); a busy-body; in this instance, a micro-fishmonger

Lajj téral (v., Wolof): to beg; or, literally, to ask for an honorary gesture

Lakk jën (v., Wolof): to braise (or “fire”) fish

Lakkkat (n.s., Wolof): an owner-operator of an enterprise producing *keccax*

(Le) lamane des terres (n.s., French): an appointed male representative from the local family lineage who allocates usufruct land rights

Mbaar (n.s., Wolof): rudimentary shelter, or resting place that shields one from the sun

Mission civilisatrice (n.s., French): a paradigm and rationale for european imperial and colonial expansion, since such conquests were seen to bring “civilization” to indigenous peoples

Mool (n.s., Wolof): fisher(man)

Ndawal (n.s., Wolof): centerpiece protein of lunch or dinner (i.e., historically, fresh fish or meat)

Petits pagnes (n.pl., French): slips (i.e., women’s lingerie)

Pirogue (n.s., French): wooden fishing boat, originally carved from a single tree trunk

Priorité de l’arachide (n.s., French): the groundnuts-first policy, which catalyzed monocropping of peanuts for sale abroad

Rakk (n.s., Wolof): younger sibling (or family member)

Saïna (n.s., Sereer): encircling gillnetter

Sali (n.pl., Wolof): salted and dried fish (not to be confused with *keccax*)

Sarax (n.s., and v., Wolof): alms, or to give alms

Senegal (n.s.): a transliteration of *sunu gaal* (“our boat”)

Sutura (n. s., Wolof): discretion

Taasu (v., Wolof): to rhythmically chant and dance an improvised, satirical or laudatory message

Thierou mbal (n.s., Wolof): the net’s share of proceeds from a fishing trip

Thiof (n.s., Wolof): white grouper (*epinephelus aeneus*)

Todj (n.s., Wolof): drying rack (used for fish)

Tubaab (n. s., Various): foreigner, usually white

(La) vente libre (n.s., French): free sale, as in the ability to sell to whomever one chooses

Waacukatu jën (n.s., Wolof): a person who unloads *pirogues* by carrying fish in a crate on their head to transport it to land or a vehicle

Wanteer (v., Wolof): to give away; to sell at a discounted price

Xooli (v., Wolof): to peel (in this instance, skin from sardinella once it is braised)

Xoolikatu jën (n.s., Wolof): a labor-hand in the *keccax* commodity chain who peels sardinella once it is braised

Yaakaar (n.s., Wolof): hope

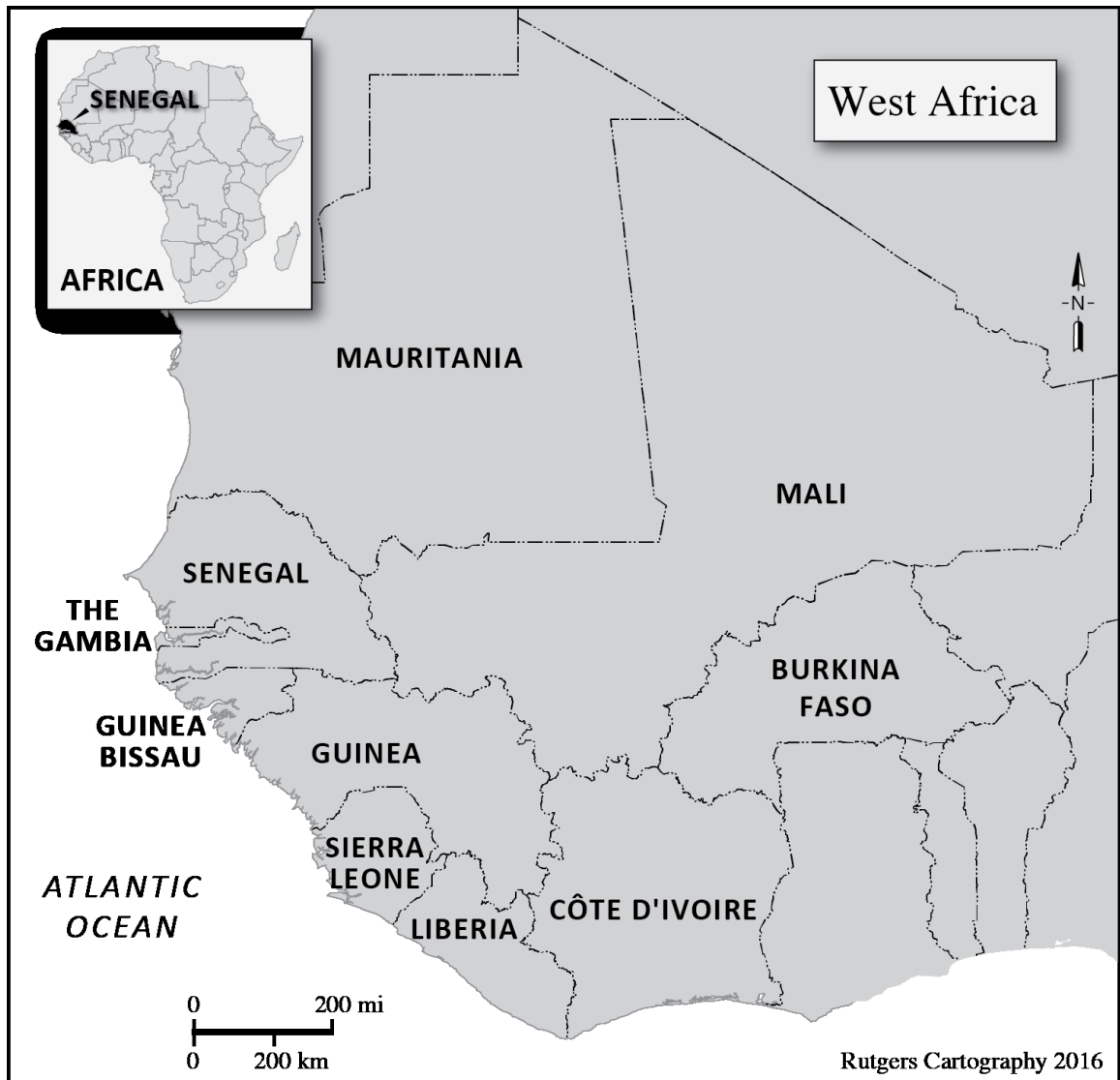
Yaboy (n.s., Wolof): sardinella

Yaboy meureug (n.s., Wolof): round sardinella (*sardinella aurita*)

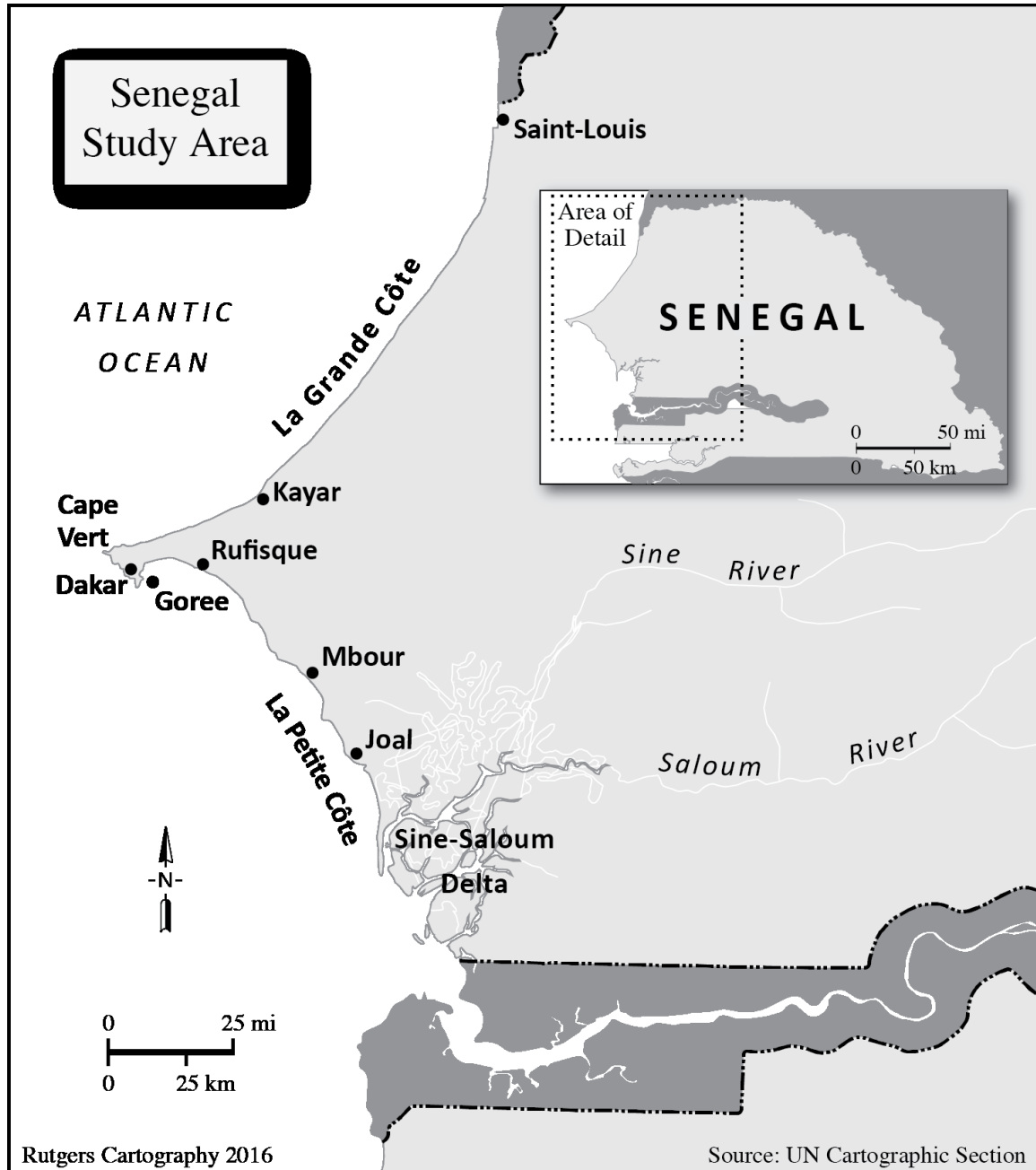
Yaboy tass (n.s., Wolof): flat sardinella (*sardinella maderensis*)

Yobbukatu jën (n.s., Wolof): a person who unloads fish from horse-drawn carts to a fish-smoking oven—this person can also double as a line manager who oversees *keccax* operations

MAP (A)



MAP (B)



1. Introduction

"Le « *yaboy* » intouchable après la disparition du *thiof*"

"Sardinella out of reach after the disappearance of grouper," the headline from *Le Populaire* daily newspaper reads the morning of May 15, 2013, echoing a common refrain I had become accustomed to hearing in homes, markets and fishing quays during my eighteen months of fieldwork over the 2011-14 period in Senegal. The article, in its investigation of rising prices, elaborates:

At the beginning of each Friday morning, everyone goes about their business in Pikine (i.e., a suburb of Dakar). As the sun reveals its first rays, women, baskets in hand, take the market path where they end up having to cope with real surprises. And lately, that's the price of sardinella, to only speak of this variety of fish, which has a dizzying effect. It's now experiencing an increase never seen before. And households that have difficulties getting supplies of costly fish such as grouper, sea bream or mullet and so fall back on sardinella, a bony fish but very tasty according to some, do not know what fish to turn to next.¹

This full page special section attests to the prominence of the issue of access to fish for readers of this paper, whose name is directly translated as the paper "of the people" or the "working class" (*Le Populaire*). The incorporation of the Wolof words *yaboy* and *thiof* into the otherwise French-language publication are telling too. These are the most widely used ways of referring to sardinella and grouper in the country, but have notable double entendres. In common parlance, *yaboy* refers to a bony man of limited means whereas *thiof* refers to a wealthy man of some heft who is able to provide for multiple girlfriends whom he showers with opulent gifts (Nyamnjoh 2005, 305-310). This granularity evoking marginalized and hegemonic masculinities² stands in contrast to the woman

¹ All translations are my own, unless otherwise noted.

² See Connell (1987) for a theorization of hegemonic masculinity. I will re-introduce this concept in Chapter 3.

essentialized as hard-working, who toils to gather the best ingredients she can to cook her family a well-deserved meal.³

These depictions of femininities and masculinities are part of the press' narrative grounding the substitution of fresh sardinella for grouper in common Senegalese foodways,⁴ but it is important to emphasize that the story detailing increasingly contested access to *yaboy* did not begin, nor will mine end, there. The availability of sardinella is not solely a question of scarcity per se. Rather, an upward trend in landings between 1999 and 2012 (see Figure 1.1) suggest that such a consumer perception stems from a highly uneven *redistribution* of flows of the commodity as fisheries have expanded.

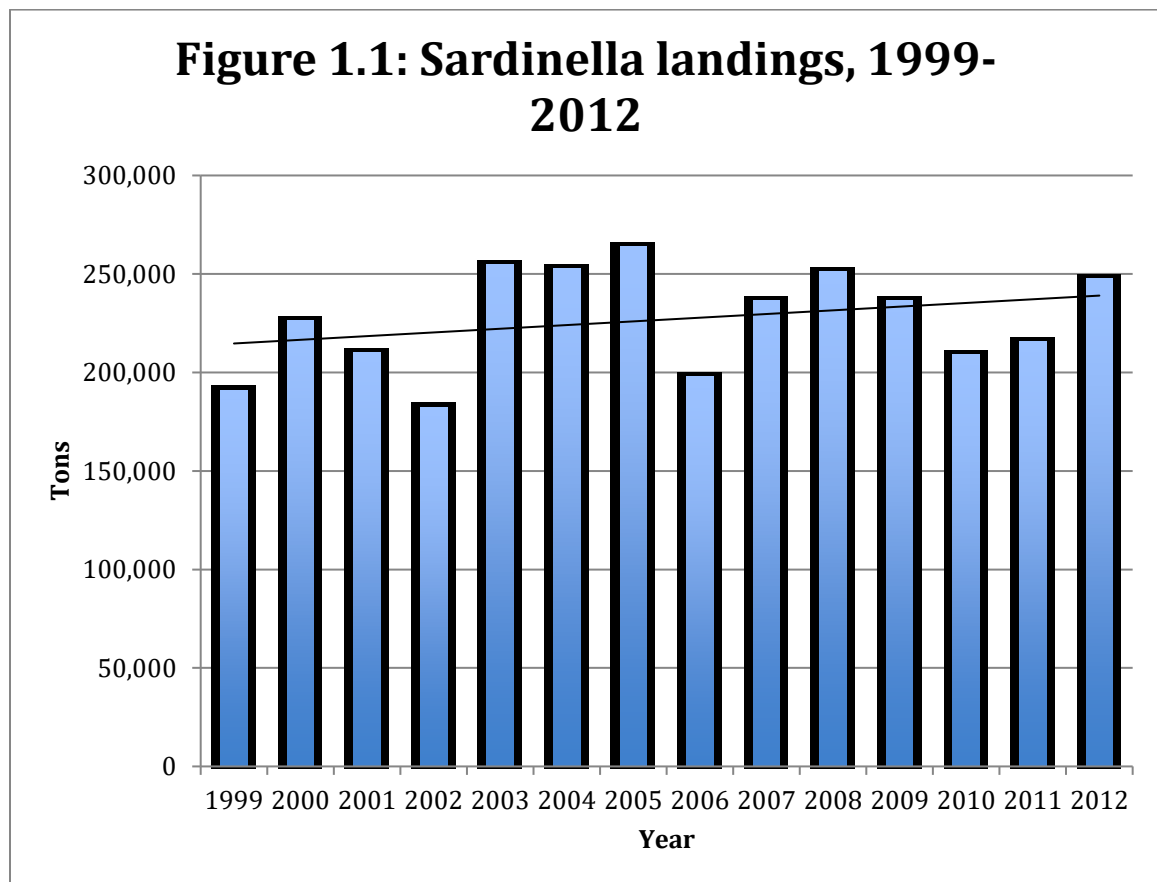
This redirection of *yaboy* follows in the wake of the re-orientation of relatively valuable fish such as *thiof* away from the domestic market, which can first be traced to the 1980s. This period marked the time when the country started to undergo trade liberalization reforms that made the export of fisheries products relatively profitable (ENDA Tiers-Monde 2007, UNEP 2002). This trend became more pronounced in 1994 with the 50% devaluation of the *franc cfa* (fcfa),⁵ which drove up demand for Senegalese products in export markets as well as revenues for those primary producers harvesting species highly sought after abroad (Thiao et al. 2012). Today, fisheries products are the country's major export, generating 30% of foreign exchange earnings in the early 2010s

³ The depiction of women as wives who cook for their families, and their husbands in particular, is also encapsulated in the following Wolof rhythmic chant (as in, *taasu*): "Ceebu jën! Day ko rof. Mbaa sa jëkër fasale!" (*Fish and rice. Stuff it (i.e., the fish) well with herbs and spices. So your husband doesn't divorce you!*).

⁴ See also Mbengue, Cormier-Salem and Gueye (2009) and Mbengue (2011, 14) who note the tendency to substitute sardinella-based products for grouper as the centerpiece of the country's specialty dish of *ceebu jën*. Pelagic fish such as sardinella constitute an average of 42% of human animal protein intake across sub-Saharan Africa (Tacon and Metian 2009).

⁵ This is the currency of Senegal and other member countries of the West African Monetary and Economic Union (ECOWAS). All calculations for this dissertation are based on the conversion rate of 500fcfa to \$1, which is an approximation of the average going rate over the fieldwork period.

with the majority coming from markets in the European Union,⁶ the United States and East Asia (Mbaye 2012). Yet fish still make up 75% of the animal protein consumed in the Senegalese diet (Thiao 2012a, 304).⁷ Thus, eating grouper has become a marker of elevated socioeconomic status within the country. But sardinella is no longer, as the Wolof proverb states (*yaboy, boo amulwoon yax, baadolo du ko lekk*),⁸ just a poor man's food.



Source: DPM (1999-2012)

⁶ Senegal exports fish duty- and quota-free to the European Union as part of the Everything But Arms policy.

⁷ See also UNDP (2010) for an overview of the macroeconomic, nutritional and developmental importance of fisheries in Senegal.

⁸ This translates literally as: "if sardinella did not have bones, poor men would not eat it." Or more figuratively: "if sardinella was not so bony, it would not be a poor man's food." This suggests that the fish is tasty, but that its ultra-thin bones are undesirable, despite providing nutritional benefits such as calcium.

Struggling to acquire fresh fish of any kind in this nation named for a dugout canoe (*sunu gaal*, "our canoe") is a relatively recent phenomenon. After independence from France in 1960, Melly (2011, 364) writes,

the pirogue was recuperated as a symbol of national unity despite vast ethnic and religious diversity. To avoid upsetting the metaphorical boat, understood as the nation, the 'passengers,' assumed to be men, had to suppress their individual desires and work together to address the needs of the community as a whole.

Today, the increasing dependence on, and decreasing accessibility of, sardinella is an issue exemplifying the tension between certain entities making profits and others getting by. This is of pressing concern to fisherfolk and consumers alike, in no small part due to rising fishing costs associated with motorization. Central to my argument is the idea that political ecological change—or the ways in which the exploitation of people and the environment go hand in hand—works in and through the reiteration of gender as it intersects with other axes of social difference. Structural change provides a series of instances hailing economic subjectivities that, in this case study, are made in a fish production system where women and men have played historically distinct roles.

1.1. Contextualizing inaccessibility

There are three contextual factors that are key to grasping Senegal's contemporary predicament. The first is the role industrial fishing has come to play in the country's exclusive economic zone (EEZ), which, as defined by the United Nations Convention on the Law of the Sea (UNCLOS), extends 200 nautical miles from shore. Since 1979, Senegal has struck up agreements with European countries (and then the European Union) that have, for the most part, exchanged fishing access for cash payments that have

financed a significant portion of the fishing ministry's budget.⁹ In these arrangements, harvested fish is not landed in Senegal, but transshipped to Europe, effectively denying the coastal state the opportunity to capture or add value beyond the fees paid.

Another type of distant-water fishing is illegal, unreported and unregulated (IUU), and amounts to a continuing dispossession of the region's marine resources. Senegal receives no formal compensation in the vast majority of these instances. China is a major player here; when estimating its vessels' catch outside of home waters from 2000 to 2011, the Sea Around Us project found that what was taken from African waters was over three times more than that taken from any other world region (Pauly et al. 2013). West Africa in particular experiences among the most significant levels of IUU fishing in the world. A recent estimate puts the annual lost revenue to the region at \$1.3 billion (Africa Progress Report 2014, 16). Notably, industrial fishing is not only diminishing the stocks of high-value fish desired abroad, but also redirecting flows of what has until quite recently been low-value fish through harvesting feeder fish and buying bait from pirogues (e.g., Coorink 2005, Daniels et al. 2016). Despite President Macky Sall committing to ending "pirate" fishing in his inaugural speech of March 2012, one pelagic super-trawler from Russia—the *Oleg Naydenov*—infamously continued to fish with impunity in Senegalese waters. A repeat offender, it was apprehended later that year as well as in 2014 when authorities found it carrying 1,000 tons of fish, stoking long-standing public outrage.¹⁰ The recurrent issue of IUU fishing is part of a vicious cycle; the government's inability to

⁹ See Alder and Sumaila (2004) and Kaczynski and Fluharty (2002) for analyses of the impacts of these types of agreements on West African coastal nations.

¹⁰ See Thomas Fessy's article in *The Guardian* (9 January 2014), titled "The unequal battle over West African fish stocks."

systematically get a handle on the situation works against their moral authority to effectively manage the artisanal fleet (Belhabib et al. 2014).

The second contextual factor, alluded to earlier, is the macroeconomic policy framework that has created incentives for Senegalese pirogues to target species that are ultimately exported, but first landed on Senegalese soil. In these instances, Senegal captures some value since, for example, fishers are paid for their catch and processing facilities create formal labor opportunities (though most of the investors are foreign). Currently, an estimated 94% of pirogues are equipped to capture fish that are highly demanded on international markets (Dème, Failler and Binet 2011, 73). This points to the extent of the sector's market integration; small-scale fishing craft supply approximately 70% of export factories' raw product (World Bank 2012a, as cited in Hurley and Manel 2015).

Recently, fishmeal-processing factories have opened in neighboring Mauritania as well as on the stretch of the coastline between the two major Senegalese fishing towns of Kayar and my field site, Joal-Fadiouth (hereafter referred to as Joal, pronounced, as in the names, "Joe Al"). This tendency must be understood in context; as Mansfield (2010, 89) underscores, 70% of non-food fish exports worldwide originate from the countries of the Global South. Though it was too soon to gather reliable statistics on the composition of fishmeal in exports during fieldwork, we do know that the crisis in Senegalese fisheries can be seen in the substitution of low-value for high-value fish and a reduction in landings in general (Mbengue 2011). When looked at in the context of changing foodways, a shift towards low-value species in landings echoes Pauly and others' (1998) concept of "fishing down marine food webs." They posit that the mean trophic level of

caught fish worldwide declined significantly over the second half of the 20th Century.¹¹ In Senegal, this suggests that as bottom-dwelling, longer-lived species such as grouper became more rare, boats subsequently caught lower trophic fish such as sardinella so that, over time, many people came to eat the prey of the predators they once enjoyed. Another study has argued that a shift to "fishing *through* marine food webs" (emphasis added, Essington et al. 2006), or developing and expanding low-trophic fisheries, accounts for the decline in mean trophic level. In line with these interventions, and despite other critiques (e.g., Branch et al. 2010) of the "fishing down..." argument, the Food and Agriculture Organization (FAO) working group on small pelagic fish in Northwest Africa conclude that sardinella are overexploited in the region (2011). At the very least, the newspaper selection opening this introduction suggests that Senegalese people are *eating*, if not also fishing, down and through marine food webs.

Third, there has been a notable shift in the flows of fisheries products towards other countries in sub-Saharan Africa, most notably Burkina Faso. Senegal, as a strategically located coastal nation, is now a major source of braised, sundried and sometimes salted sardinella, or *keccax* (pronounced keh-*chaakh*) for the Burkinabe market. Once used primarily as a condiment, this commodity has taken on a new culinary role as a centerpiece protein in not only inland but also coastal Senegalese communities because of its longer shelf-life. The composition of exports of fresh fish has also diversified, reflecting an uneven spatial distribution of products according to price and the associated social status consumption bestows on consumers. At the beginning of the 2010s, the weight of fish exported to African markets exceeded that sold to European

¹¹ Trophic level refers to a species' position in the food chain. For example, a higher trophic level fish would eat plankton-feeding (i.e., lower trophic level) fish.

markets. Yet the value of fish exported to Europe continued to exceed that which was exported to Africa. This suggests that the most valuable products harvested in resource-rich West African fishing waters tend to be eaten in the Global North while the least valuable are eaten in relatively proximate regions of the Global South. With the exception of restaurants and certain suppliers catering to the cosmopolitan elite, the higher-value species that are more widely available in Senegal tend to be unfit for export. As one stay-at-home mom living in Joal told me, "when you see a grouper at a price you can afford, you know something's wrong with it" (see also Dème, Failler and Binet 2011, 91, Nyamnjoh 2005, 305). Together with the trend towards fishmeal provisioning, these developments mean that sardinella, once a fish discarded on beaches because it was so plentiful it could not be sold, is now, in fresh and preserved forms, a highly sought-after commodity.

This thesis will speak to the increasingly contested nature of access to fish by narrowing the analytical frame to concentrate on sardinella fisheries. In contrast to a plethora of studies on high-value species on the continent such as Nile Perch in the Lake Victoria region (e.g., Geheb et al. 2008) and grouper in the studied setting (e.g., Thiao et al. 2012), there is a relative paucity of studies on small pelagic fish.¹² This dissertation will help fill this relative lacuna in the literature by concentrating on *yaboy meureug* (*sardinella aurita*) and *yaboy tass* (*sardinella maderensis*), which are now both crucial to West African nutritional security.

1.2. Empirical and theoretical orientations

¹² For a notable exception that looks at sardine-like fisheries and processing in Tanzania, see Gibbon (1997).

I will synthesize some of the key findings and theoretical turning points in three bodies of literature to set the groundwork for developing a conceptual framework, which I will outline in the following section. These threads are: 1) gender, development and fisheries; 2) Africanist household studies; and 3) feminist political ecology with an emphasis on the question of access to natural resources, and gendered subjectivities.

1.2.1. Gender, development and fisheries

The first and most empirically relevant conversation that this research speaks to is the body of literature looking at gender, development and fisheries (management), which is small, but growing (Matsue, Daw and Garrett 2014). To date, it can be read as a body of work that has largely theorized gender as women's issues (e.g., Choo et al. 2008, Kleiber, Harris and Vincent 2015).¹³ Scholars have tended to concentrate their efforts on documenting women's roles in fishing economies as a corrective to the widespread impression that, men as fishers, are the primary harvesters and hence decision-makers in the industry (Bennett 2005, Power 2011, Weeratunge et al. 2009). The unintended consequences of resulting "add women and stir"¹⁴ initiatives can be seen in the Tonle Sap region of Cambodia, for example, where Resurreccion (2006) observes that inclusive community-based management institutions ignored complex systems of *de facto* governance over fishing areas, exacerbating women's already significant workloads, perpetuating existing gender inequities rather than transforming them.

An offshoot of the discussion about women's roles has been the documentation of gender divisions of labor. This thread in the literature has largely represented men and women's work as falling along a land/sea binary that attributes housework, processing

¹³ Though see Power (2005) who examines men and masculinities in Newfoundland fisheries.

¹⁴ See Davis and Nadel-Klein 1992 and Diamond 2003 for a critique of why "add women and stir" approaches are problematic when implemented in fisheries projects and coastal management efforts.

and marketing to the former group and harvesting to the latter (e.g., Davis and Nadel-Klein 1992, Munk-Madsen 2000, Thompson, Waily and Lummis 1983, 183, as cited in Deb, Haque and Thompson 2015). Yet these and other contemporary studies (e.g., Burton 2012; Walker and Robinson 2009) remind us to make the characterization of work patterns an object of analysis rather than an assumption from the outset.¹⁵ Kleiber and others' (2014) article, based on fieldwork in the Central Philippines, for instance, shows that when gleaning and part-time fishing are enumerated, over four-tenths of fishers are women who, in turn, expend one-quarter of total fishing effort and contribute one-quarter of the catch (see also Harper et al. 2013).¹⁶ In contemporary Senegal, we can also see a blurring of broad-stroke dichotomous thinking in the case of female oyster harvesters in the Sine Saloum delta, who balance gleaning and artisanal processing techniques with selling their goods in area markets (Crow and Carney 2012).

Documenting who does what work is useful because it can provide an empirical starting point for appreciating how political, environmental and economic changes affect women and men differently (Neis et al. 2005). This has led a number of scholars to concentrate on the consequences of such shifts for women working in contexts ranging from snow crab processing factories in Newfoundland (McCay 2003) to fish markets in northwest Tanzania (Medard 2005, 2012). An emergent literature on globalizing fish markets and supply chains tends to demonstrate the negative effects of these processes for women (cf. Weeratunge, Snyder and Sze 2009). But it is also important to remember that hierarchies among women matter to who is able to benefit (and stands to lose) from

¹⁵ As Onyango and Jentoft (2011) conclude, men tend to also own the means of production used to harvest (i.e., boats, nets, motors), though women owning canoes in Ghana (cf. Overå 1993) and the Lake Victoria region (cf. Medard and Wilson 1996) are exceptions to this rule.

¹⁶ See also Weeratunge, Snyder and Sze (2009) who argue that if pre- and post-harvest activities were taken into account in Africa, Asia and the Pacific, fisheries production may well be a female-dominated sector.

structural change. For example, in Ghana, the ability to mobilize capital determined which fishmongers were able to purchase the bycatch of passing South Korean trawlers (Overå 2005). Moreover, in India, analyses of mechanization processes and market expansion have demonstrated that these forces can lead to an enhancement of social and economic differentiation among women (Hapke 2001, Rubinoff 1999).

Following these traditions and keeping with the tendency to translate gender into women, scholars have posed a key question to understanding fisherfolk's abilities to sustain their natural resource-based livelihoods. As Williams and others (2012, 5) put it: "how can women retain or gain access to fish for processing and sale against other competitive buyers?". One such everyday practice that has received significant media and scholarly attention is the "fish-for-sex" phenomenon in Eastern and Southern Africa (Béné and Merten 2008). In the Kafue river floodplains in Zambia, for example, female fishmongers and processors strike up temporary marriages with fishers, performing domestic labor in exchange for product. This not only raises serious public health concerns about the transmission of HIV/AIDS in light of resource users' mobility (e.g., Mojola 2011), and substantiates the long-held feminist lesson that economic autonomy is foundational to women's bodily control (cf. Pearson et al. 2014). It also confirms Weeratunge, Snyder and Sze's (2009) point that discerning the gendered meanings associated with work in fishing and fisheries production in the developing world is an important area for future research.

1.2.2. Africanist household studies

The field of Africanist household studies emerged in response to social scientists' efforts to understand the relationship between capitalist development and social organization on

the continent (Guyer 1981). A tendency of early efforts was to equate the household with an arguably Eurocentric conceptualization of the firm (Guyer 1981, 98, Sow 1997).¹⁷

In his study of the Gouro in the Ivory Coast, for example, Meillassoux (1975) conflated the household with the production unit, and as such, thought of it as a site of exploitation. This Marxian model, based on the assumption of a household-head making key production decisions and appropriating the value of his family members' labor, contrasted sharply with its neoclassical sibling. This latter school of thought was popularized by Gary Becker (1981), who contended that benevolent dictators headed households, pooled the income that other family members made and oversaw its efficient re-allocation according to their fundamentally well-intended nature.¹⁸ These theorizations interpreted intra-household dynamics in fundamentally different ways (i.e., as exploitative in the one, and peaceful in the other). But they both assumed how households worked, treating them as so-called black boxes whose contents were unknown and so static. Neither conceptualization accounted for how economic transactions were embedded in African social institutions, which were themselves subject to change (Berry 1993).

In her study of the role of agribusiness in Senegal's food crisis in the 1970s, Mackintosh (1989) characterized subsequent studies on the changing composition of African households into two groupings -- firstly, as those thinking of households as sites of production, and secondly, as sites of consumption and social reproduction. This categorization helped to understand broad shifts from subsistence to commodity

¹⁷ See also Evans (1991) for economists' interpretation of gender in rural household economics.

¹⁸ Folbre (1986) noted that what thereafter became the New Household Economics was internally incongruent, since, following Becker, it conceptualized individuals as acting in their self-interests in marketplaces but for the collective good at home. This lesson is especially well illustrated in West Africa where the non-pooling of income institutionalizes incentives to generate personal income and (generally) sanctions control over spending decisions.

production in the agrarian economies of sub-Saharan Africa where men tended to control the income generated from cash crops that were often cultivated in part thanks to women's unpaid labor (Rogers 1980, as cited in Whitehead 1981).¹⁹ In many instances, male household heads' exploitation of female labor has not gone uncontested, however (see below). Thus, scholars have also conceptualized households as sites of *negotiation* over labor, access rights and income distribution. This last framing is contingent on, and deepens, theorizing the cultural specificity of diverse patriarchies (Kandiyoti 1988). It also brings attention to the elements and processes of bargaining involved in changing what Whitehead (1981) called the "conjugal contract" (93). Recent studies on the continent (Koopman 2009, Duncan 2010 and Nation 2010) have continued the tradition of understanding intra-household dynamics as a key dimension of the social organization of agricultural production.

In contrast to the Middle East, South Asia and the Maghreb where polygyny is a marker of wealth and social status, having more than one wife in West Africa helps to organize kinship relations across all classes (Kandiyoti 1988). An implication is that marital partners maintain separate purses rather than pooling income (see Carr 2005; Guyer 1988; Therborn 2004). The social influence that comes with a woman being encouraged to generate and control an income of her own has been documented among, for example, Asante commodity group "queen mothers" (*ohemma*, Clark 1994, 94) who coordinate vast trade networks as market leaders in Ghana. Yet scholars have also shown how context matters to female-controlled wealth translating into enhanced intra-household decision-making power. For example, a case study among the Yoruba in

¹⁹ Case studies on the continent more generally display a propensity for men to take on the production of export crops. To name but a few, see studies in Senegal (Nation 2010), Sierra Leone (Leach 1994), Tanzania (Hodgson 2001) and Uganda (Whitehead 2009).

Nigeria shows that the type of asset matters; patriarchal norms sanction women controlling land and houses acquired through family inheritance but tend to disapprove of women buying properties with income that they have made through their own market activities (Aluko 2015). In Uganda, the relative distribution of income between spouses is a key factor in women's ability to negotiate their husbands' contribution to childcare (cf. Oduro and van Staveren 2015). When women and men have similar incomes, men tend to participate in child-rearing. But when women have significantly higher incomes than their husbands, men assert what they perceive to be breadwinning roles by refusing to participate in the everyday activities of social reproduction (Nkwake 2015). In Senegal, Guerin (2006) observes that women tend to guard their incomes from community and family by 1) investing in assets (e.g., jewelry, cloth, chickens, cattle) that can easily be sold for cash when needed; or 2) making semi-regular contributions to rotating savings and credit associations (ROSCAs).²⁰ This helps entrepreneurs in particular exercise more control over allocation decisions of their personal income.

Another element of the debates examining gendered access rights and income distribution is the enduring ideology of "maternal altruism" (Whitehead 1981), which posits that women have a greater propensity than men to allocate resources that they control in such a way that enhances household welfare. There is no shortage of empirical data showing that when women control income their children's nutritional security improves, for example (Blumberg 1988, Hartgen, Klasen and Vollmer 2012, World Bank 2001, Quisumbing 2003). A whole industry and set of poverty reduction programs concentrating on giving small business loans to women (i.e., microfinance) has even been developed based on this premise (cf. Chant 2016). Yet altruism should not be confused

²⁰ In Senegal, ROSCAs are referred to as *tontines* (French) or *natt* (Wolof).

with the influence that comes with benevolent dictatorship. Development projects enhancing women's access to income and credit generally adopt an individuated concept of empowerment, sidestepping the question of the institutional change needed to lessen women's work burdens and facilitate their community and household-level decision-making powers (Patel and Hochfeld 2011, Seguino and Were 2014).

These case studies then bring into stark relief some of the components and dynamics of the conjugal contract. This framework governing the relationship between a husband and wife/wives is contextually and historically specific, outlining the rights and responsibilities of each party to one another and the household as a whole. In so doing, it provides the groundwork for contesting its terms; when, for example, a husband, whether through choice or circumstance, does not uphold his side of the contract, his wife has a bargaining chip to alter the balance of power in her favor (e.g., Schroeder 1996). Thus, like the patriarchal norms predominating among the Yoruba, the conjugal contract is an informal institution that is subject to change in an ever-shifting terrain of personal abilities to fulfill gendered family responsibilities. For this reason, Jackson (2012) has criticized the use of the phrase "conjugal contract" in favor of "creative conjugality." The latter, she argues, explicitly underscores women's agency in shaping the terms of engagement with their husbands (see also Elmhirst 2011, Jackson 2007). And so, as economic and environmental conditions shift, change is arguably the only constant for households engaged in the politics of agrarian production.

1.2.3. Feminist political ecology

Feminist political ecologists have long focused on the material consequences of contests over symbolic meaning (Carney 1993; Rocheleau et al. 1996; Schroeder 1999). These

early and important works built on and contributed to conversations in conjugality studies, by demonstrating how production politics were grounded in intra-household dynamics in peasant economies.

The Senegambian region loomed large as an empirical context pinpointing the connected themes of struggles over land, labor and money. In their study of the introduction of contract farming in the Jahaly-Pacharr swamps of The Gambia, for example, Carney and Watts (1990) showed how men evoked customary idioms in order to lay claims to the fruits of their wives' labor despite women gaining formalized tenure rights to grow rice in the area. In the southeastern town of Kerewan, Schroeder (1997) theorized land reclamation as part of a shifting development agenda that ultimately resulted in men "re-claiming" land that women were using as market gardens on a usufruct basis. In both instances, environmental interventions catalyzed gender conflict over property rights, access to income and household labor. These case studies buttressed Rocheleau, Thomas-Slayter and Wangari's (1996) conceptualizations of gendered knowledge, resource rights/ responsibilities and organization as central to critical analyses of sustainable development. Findings showing the importance of power relations in facilitating the appropriation and distribution of surplus resonated with Ribot and Peluso's (2003, 153) later theorization of access as "the *ability* to benefit from things" (emphasis in original). Together, these foundational interventions demonstrated how people employed gendered meanings to contest, and shape, changes in the social and economic relations of production as human-environment interactions took on new forms.

One of the more recent trends in looking at the micropolitics of resource access and control is examining the gendered impacts of the "neoliberalization of nature"

(Castree 2008a, 2008b). This phrase refers to the ongoing processes of deregulation and reregulation of markets (as well as natural resource governance) in ways that benefit global capital. Large-scale land deals (i.e., "land grabs") in sub-Saharan Africa have captured the media spotlight, for example, but Behrman and others (2012, 51) argue that empirical studies have not paid due attention to the gender-differentiated effects of such developments. There have been some recent attempts to do so, however. For example, a transition to mono-cropping of oil palm in West Kalimantan, Indonesia has demonstrated the tendency of foreign investors to unsettle existing land tenure regimes in ways that ultimately make women more vulnerable, by limiting their access to forests and the income-generating opportunities this affords (Julia and B. White 2012).²¹ Yet Hauserman (2014), based on her mixed methods study in Mexico, has nuanced the widespread conclusion that neoliberal policies negatively affect women land users. There, reforms privatizing land surprisingly enhanced women's access and leadership power. Emphasizing the importance of political subjectivities in gender-environment interactions, her study reminds us of the empirical burden scholars carry to demonstrate the precise mechanisms of neoliberalization as they track its rationales and grounded consequences (see also Ferguson 2009).

A new wave of feminist scholars looking at political-ecological contexts argue that a present challenge is to queer theorizations of gender to push forward previous understanding that tended to distill gender into male/female binaries (Hawkins and Ojeda 2011; Resurreccion and Elmhirst 2008; Elmhirst 2011).²² These scholars are inspired by Butler's insight (1990) that gender is not a stable category; rather it is *performed* on a

²¹ See Elmhirst (2015, 521-3) for a wide-ranging review of this literature.

²² Elmhirst (2015) also delineates material feminism and an ethics of care as two other loose strands in the renewed feminist political ecology debates, but I do not directly engage these ideas in this dissertation.

continual basis, which makes rights, responsibilities and other sets of expectations appear natural. When it comes to the study of gender and environments, this means that when nature is produced in ways that assign women and men certain normative roles, gendered subjects are made through their interactions with the environment (see Agrawal 2005, also Hawkins 2012, Nightingale 2006, Sultana 2009, Sundberg 2004). This recalls Foucault's (1980, 131) observation that "each society has its regime of truth: that is, the types of discourse that it accepts and makes function as true." In other words, post-structural feminist political ecologists are committed to dismantling the social truth of gender through investigating why it matters to how people interact with their environments. So for the purposes of this dissertation, it is understood that Senegalese fishermen do not have an innate ability to fish better than women, but that the ocean has become a field where masculine subjectivities are repeatedly enacted. In parallel fashion, it is not so much that women have an innate ability to buy, process and sell fish better than their male peers, but that landing sites, processing sites and retail outlets have become *milieu* where women's social and economic actions produce and reinforce patterns of social difference. The historical tendency of men to harvest and women to engage in post-harvest activities in the sector (Mbengue 2013) forms the basis of the conjugal contract among fisherfolk.

In addition to understanding why and how the gender binary (re)produces socially accepted and politically useful heteronormativity, another approach to counter dichotomous thinking is to break down seemingly mutually exclusive categories into smaller component parts. This summons geographers' efforts to spatialize and place feminist theories of intersectionality (e.g., Valentine 2007), which is the key concept for

thinking through how multiple axes of social difference matter to everyday experiences of power. The project of differentiating "women" and "men" is a strength of post-structural feminist theory more broadly, but specifically too for political ecologists (e.g., Nightingale 2011). Scholars analyzing the gender-environment nexus have shown, to name but a few examples, how race, class, caste and gender intersect to affect quotidian adaptations to climate change in Bangladesh (Sultana 2014), patterns of vulnerability to urban flooding in Nigeria (Ajibade, McBean and Bezner-Kerr 2013) and researcher-researched relations in Honduras (Mollett and Faria 2013).²³

1.3. Conceptual framework

Building on these rich scholarly traditions, this dissertation will show how structure, technology and work are profoundly gendered processes. And I will do so in three principle ways. First, I will demonstrate how the histories of artisanal fisheries and processing have evolved in tandem. Second, I will employ a neo-Marxist analysis of the purse seine and encircling gillnet fisheries to show how masculinities are mutually constituted with the production of sardinella. Third, I revisit structural feminist political ecology within a contemporary context in reference to primary and secondary production, to argue that documenting historical divisions of labor is crucial to understanding gendered subjectivities. Together, I hope this will help to retrieve the contributions of select debates on structural change, by applying them to a natural resource-based production system in such a way that unsettles gender *and* land/sea binaries.

²³ See Hovorka (2012) for an example of feminist political ecology concentrating on gender-species intersectionality.

To do so, I employ an approach akin to what Cindi Katz (1996) has described as "minor theory." Synthesizing Deleuze and Guattari's theorization of Kafka's canon as minor literature, she concludes, "to write a 'minor literature' is to use a major language in ways that subvert it from within" (ibid., 489). Similarly, she adds, minor theory does not, like major theory, attempt mastery, which she defines as "a way of dealing with knowledges in a progressive, linear, and commanding way that garners respect for those who play by its rules" (ibid., 497). Being mindful to not fall back on the opposition between Marxism as major and feminism as minor theory in geography, I posit that I see a valorizing of a transition from structural to post-structural theorizing in feminist political ecology, as if this development were part of a linear progression rather than a turn to be taken when learning where a path began and might go. The tension between, on the one hand, a (Western) feminist tradition seeking to promote gender equity in and through human-environment interactions, and, on the other, understanding "truth" as socially produced, is fraught. How to employ the strengths of both approaches is one of the driving motivation of this dissertation. Ultimately, I combine an empirical focus on "a broadly defined political economy" (Blaikie and Brookfield 1987, 17) with a theoretical commitment to dismantling the regulative fiction of gender, arguing that this synergy represents a point of departure for theorizing intersectionality.

Simultaneously, I present and write up data to develop the notion of what I call gendered seascapes.²⁴ This follows Walker (2001, 2002) who elaborated a framework for "engendering seascapes," which brings to the fore the complex institutional arrangements governing access to marine resources through consideration of key debates on 1) political

²⁴ Sultana (2010) and Harris (2006), for example, have employed the notions of waterscapes in feminist political ecology, but in such a way that refers to the water equivalent of physical landscapes. I am extending the notion of seascapes beyond the material.

ecology; 2) common property resources; and 3) critical gendered development studies. In her Ghanaian case study, these arrangements have historically included colonial and communal property rights regimes that constrained and enabled certain groups of fishers to harvest in certain areas and not others (Walker 2002). Engendering seascapes also entails understanding the land-sea linkages affecting overfishing, as seen in the influence of female canoe owners over men's fishing practices among the Fanti in Ghana's Cape Coast (Walker 2001, see also Overå 1993). This dissertation seeks to extend these analyses of access, by reflecting on how political ecological change simultaneously produces winners and losers in the contemporary Senegalese sardinella production system. It is my hope that the analytical work of unpacking the "bundle of powers" constituting socially-mediated access (Ribot and Peluso 2003, 173) will continue the important work of showing how work at sea and on land are interdependent processes.

Appadurai's (1990, 589) use of the suffix *-scape* (e.g., *ethnoscapes*) is also useful in enriching the concept of seascapes, since, in his own words, *-scapes*:

are not objectively given relations that look the same from every angle of vision but, rather, ... they are deeply perspectival constructs, inflected by the historical, linguistic, and political situatedness of different sorts of actors... the individual actor is the last locus of this perspectival set of landscapes, for these landscapes are eventually navigated by agents who both experience and constitute larger formations, in part from their own sense of what these landscapes offer.

Such an anthropological construct refers to the global cultural flows of people and things, the disjuncture such movements refract, as well as the varied perspectives that can be brought to bear on these dynamics in articulation with competing visions. When adapted to the cognate discipline of geography, this theorization might also describe the political ecological flows of people and things. Implicit in this extended frame is the issue of surplus, or how value is extracted through human-environment interactions. Examining

people's movements, following things and tracing the circulation of surplus has the potential for a more nuanced conceptualization of what the study of the sea entails.

Engendering the notion of seascapes also highlights the multiple axes of social difference that intersect to affect the everyday experiences of fisherfolk as they adapt, and adapt to, access governance. Access governance in this instance refers both to the norms, institutions and policies sanctioning who is able to harvest fisheries resources, when and how. It also refers to who benefits from the thing in question—here sardinella—and how processes of environmental change, social differentiation and evolving relations of production affect these constellations. Given the robust literature on management and conservation efforts in fisheries, I will concentrate my energies on the exploration of the second theme. Moreover, access in the sense of benefits is crucial to understanding environmental governance in the spirit of the first theme. Understanding who is invested in past, current and anticipated configurations of benefit flows has the potential to help planners and policymakers identify the relevant individuals and groups that should be included in co-management efforts—the latest trend in Senegalese fisheries Development²⁵ and government policies—as well as cost-benefit analyses of other types of initiatives.

This dissertation will show how agrarian change and fisheries are mutually constituted by engaging with the empirical and theoretical literature I reviewed in the following ways.

One of the major strengths of the gender, development and fisheries literature has been to show the gender-differentiated effects of what has loosely been understood as globalization. In Mauritania, for example, as mullet roe have been exported to European

²⁵ See Hart (2001) for more on the distinction between big-D and little-d development.

and Asian markets, Imraguen women have found it more difficult to attain supplies of the fish for their processing activities (Cormier-Salem 2008). This is because fishermen prefer to sell directly to wholesalers who supply export markets or else to high-end businesses in Nouakchott that supply caviar to the country's elite. Understanding the social dynamics of orienting commodity chains towards export markets are crucial issues that I will also reflect on, but I would add that it is also important to highlight women's roles in shaping structural change.²⁶

Hence, in this case study, I refine understandings of globalization in the debates on gender and fisheries by defining it as a phenomenon whereby people unevenly affect and are unevenly affected by a growing distance between sites of production and consumption of fisheries commodities. This view echoes Ferguson's (2006) explication of the French distinction between useful Africa (*Afrique utile*) and useless Africa (*Afrique inutile*) in his explanation of patterns of asymmetrical investment on the continent. People and places provide certain things that the colonizer, post-colonial state or global marketplace more or less desired/s. And to explain such patchiness in the context of a continent that often lives in its own shadow, he calls for a framework that is "centered less on transnational flows and images of unfettered connection than on the social relations that selectively constitute global society" (ibid., 23). This dissertation concentrates both on the flows of things and how people to relate to one another because of its subject matter. Fish is among the most globalized commodities in the world (see Bestor 2001). Hence, a study of Senegalese fisherfolk represents a set of social relations that global and regional economies have made, and continue to make, use of. In turn,

²⁶ Otherwise, scholars risk painting people (or, here, women) as hapless victims of the penetration of global capitalism rather than subjects of their own making (pace Gibson-Graham 1996, 120- 147).

Senegalese fisherfolk, in channeling demand for fish in certain ways, are shaping the terms of becoming part of a global society. Understanding the expanding distance between production and consumption sites is a lens that can tell us who is being affected by, and affecting, fishing economies, and by extension, seascapes that folks are actively gendering.

Africanist household studies likewise provides a wealth of concepts to build on, including the ideas of conjugal contracts as well as women and men's creativity in changing their terms. It emphasizes the social embeddedness of economic transactions, and uses marriage as a family-based institution to highlight how agrarian production has been and is organized. It also shows us the value of ethnographic and historical approaches to understanding changing economies, in contrast to quantitative assessments of structural change that may provide snapshots likely based on cultural projections. Like child's play that articulates new livelihood strategies in the midst of economic transition (see Katz 2004), looking at how fisherfolk relate to one another in new ways portends the long-term impacts of political interventions, economic restructuring and environmental change. It helps to show both how people's everyday interactions with each other and their environments amount to evolving ways of surviving and producing surplus.

Yet scholars have also criticized this sub-field for being female-centric (e.g., Perry 2005). Neither is the household literature known for differentiating among the categories of "women" and "men". Here Connell's (1987) concept of hegemonic masculinity is important because it substantiates the idea of intra-gender hierarchies while bringing attention to what have been referred to as "missing men" (Cornwall 2000) in the development literature. This is a theme that I will develop further in Chapter 3,

which looks at young men's strategies for becoming breadwinners. I argue that a new set of values transmitted to youth through role-modeling ultimately exerts additional pressure on regional fisheries. Contributing to debates on men and masculinities is a relative blind-spot that I, following Power (2005, 2011),²⁷ hope to spotlight.

In parallel with many studies on African households, works on gender and fisheries tend to shy away from the explicit question of how gender subject formation and natural resource-based economies are mutually constituted. Luckily, this is a strong point of feminist political ecology and offers a point of synergy for the three ongoing conversations I seek to contribute to. Structural approaches, in highlighting the ways women and men have historically survived and flourished, provides an empirical basis for understanding how the outcomes of changing political economies are firmly differentiated by gender. In West Africa, a structural approach shows why gender is one type of difference that matters to understanding access in fishing economies. Because of fisherfolk's abilities to cite the historical record and contemporary practices, gender discourses have the potential to actively shape the distribution of natural and financial resources in ways that benefit some of the people who claim half of the binary as their own. Thus Senegalese fishing economies provide a rich case study for problematizing the tension between dismantling social truths and using discursive tools to challenge, or, as the case may be, maintain, the status quo. For example, and as we shall see, gendering fish processing helped to catalyze effective political strategizing resulting in enhanced opportunities for women's work in parts of Senegal.

²⁷ For an analysis on the related, but also distinct, sector of maritime transportation shipping, consult Fajardo (2011) who discusses oceanographies of masculinities among Filipino seafarers.

A post-structural critique of this variant of feminist empiricism, however, is that identifying crops (or the production of sardinella and *keccax*) as women's or men's work does not account for differential access rights among women or among men (Carr 2008). Practitioners cannot address the needs of women without taking into account the differences among them. This is one example of how structural analyses and post-structural theorizing can inform one another, and represents an important intervention for policy makers and development planners. I would re-iterate that a commitment to empiricism in seeking to understand gendered environmental and economic subjectivities entails historicizing contemporary everyday practices. One cannot understand gender discourses as shaping and influenced by changing political ecologies without appreciating how work processes, family roles and socially-mediated exchange have evolved in articulation with what it means to be a man or woman in a given agrarian society over time. In other words, subject formation and processes of socioeconomic differentiation among women and men do not occur in institutional or historical vacuums. Thus post-structural concepts such as intersectionality are useful to empirical studies, but so too are concepts such as the gender division of labor to post-structural theorizing.

1.4. Research questions

This dissertation is guided by the following overarching and sub-questions, which will together, I hope, initiate a discussion of how gender and seascapes are mutually constituted through an investigation of fish production systems in Senegal.

- ❖ How did a byproduct of artisanal fisheries become a precious commodity that fisherfolk fight over in such a way that re-iterates gender as a key axis of social difference?
 - How has women's participation affected and been affected by restructuring of the sardinella production system?
 - How are masculinities mutually constituted with the production of sardinella in the purse seine and encircling gillnet fisheries?
 - In anticipation of imminent capitalist development, to what extent do Senegalese fisherfolk's interests diverge according to gender?

1.5. Dissertation roadmap

The remainder of the dissertation is organized into a methodology chapter; three body chapters based on primary data collection and a review of the available francophone literature that has largely been inaccessible to anglophone audiences until now; and a conclusion. I will sketch out the main contours of my argument to signpost the reader's path.

The second chapter contextualizes my methodological choices in epistemological and ontological debates in feminist geography. Key among these is how to combine a critical framework with positivist methods, an enduring question (and tradition) in feminist political ecology (Rocheleau 1995, Nightingale 2003). The importance of thinking reflexively and considering how one's positionality interacts with research participants' subject positions are also issues of key concern. After a discussion of these and related themes, I intervene by tracing the five major phases of research that I

conducted, including participant observation, a survey with boat owners, semi-structured interviews, focus groups and document collection. I conclude this chapter by reflecting on some of my more successful strategies for gaining access to informants as well as the limitations of the research.

The third chapter provides an overview of the history of artisanal fish production and processing in Senegal, tracing how they transformed from livelihood activities for family sustenance to enterprises producing for profit in the 20th Century. The transition from a family boat, collectively owned and operated in conjunction with women's work in processing, to an individually owned boat, is a nationwide trend inextricably linked with monetization. Yet in contrast to studies on gender and fishing economies exclusively emphasizing the impacts of globalization on women, my findings elucidate how women played active roles in the commodification of bycatch washed ashore along the Senegalese coast. This does not discount the impacts of expanding regional *keccax* markets into West Africa, which has catalyzed a process resulting in many women leaving or downgrading roles in the sector, a trend especially acute in Joal over the past two decades. Yet the comparative case of Kayar, another seaside town, shows that the outcomes of structural change are historically contingent. There, female fish processors (*femmes transformatrices*), organized to all but codify preservation as women's work. In collaboration with local public authorities, women succeeded in preventing men from entering the occupation as owner-operators. Today, virtually every processing operation is owned by a woman there. *Kayaroises* learned from the case of Joal, and conscientiously gendered their work as an exclusively female realm. In turn, they

effectively deployed this social truth to regulate who was able to benefit from *keccax* and fermented fish production.

The fourth chapter turns the empirical focus from women to men, recalling the theme of multiple masculinities first evoked by the newspaper selection opening this introduction. I draw on Harvey's (2003) notion of the spatio-temporal fix to trace how young men have migrated as casual laborers to fishing areas in the wake of agricultural decline. The introduction of the purse seine in 1973 amounted to a disruptive technology that enhanced inequalities between those effectively owning the means of production and those using it to harvest fish. Yet the financial difficulties facing fishers do not deter young men from taking on largely unsustainable amounts of debt as they seek to become boat owners. This structural aspiration—to own and operate one's own craft in order to start and provide for one's family—amounts to a kind of hegemonic masculinity enrolling young men's labor in a system that provides little job security or institutionalized mechanisms to accumulate savings. In the absence of wage labor as a proxy for capitalism, systems of compensation and financing boat ownership in these instances are class processes highlighting the uneven distribution of surplus to capital and labor. In turn, indebtedness creates incentives for undertaking more fishing trips as aspiring boat owners must fish to repay wholesalers. In many instances, taking additional trips means taking out even more debt to be able to do so.

The fifth chapter considers the extent to which women's and men's economic interests diverge according to gender as a result of these different structural positions, and struggles, in the sardinella production system. In anticipation of the opening of a fishmeal-producing factory, a public conflict pitting *femmes transformatrices* against boat

owners highlights the continued salience of discourses of maternal altruism and benevolent dictatorship as political devices. Afraid of rising prices as a result of the new market industrialization will open, *femmes transformatrices* argue that their access to fish will be diminished. Then, who will feed the children? Boat owners reply that their costs are too high to be selling fish to their female kin at family discount. This implicit invocation of the family boat (where women are in charge of cooking, preserving and selling fish in order to feed the children, and men give their wives first dibs to their catch and at favorable terms) is divisive since women want this arrangement to endure while men want it to change. Yet upon closer examination, we learn that that the gender binary is not as useful in characterizing who is for and against this initiative as it first seems. The most vocal women are relatively well-established entrepreneurs and older than a newer generation of fishers' wives who do not require large amounts of fish to sustain their business activities. This latter group deals in small quantities, acting as intermediaries between fishers and processors who are no longer allowed to conduct their work on Joal's beaches. This analysis points to the importance of age in understanding who is invoking gender discourses and why. It also shows that the conjugal contract among fishing couples is still relevant, but has limitations since it can no longer accommodate the substantial quantities needed for younger *femmes transformatrices* to attain economies of scale. In making price the issue that hails gendered economic subjectivities between older fish processors and socially esteemed spokespeople for younger boat owners, Senegalese fisherfolk then provide a case for thinking through the ways in which “money contributes to, and reflects, how social integration and disintegration are at work simultaneously” (Watts 2004, 219).

The sixth chapter concludes with an overview of empirical findings by emphasizing the differences among men and among women that co-produce gender as an axis of social difference that matters in West Africa. I accomplish this by highlighting the hallmarks of capitalist restructuring in rural economies in the Senegalese context, before discussing some of the points of conceptual synergy between studies on fishing and farming. In this sub-section, I argue that it is impossible to understand fisheries without understanding sea-based activities' links to those on land. Lastly, I revisit the tension between dismantling social truths and a feminist politics of praxis. I maintain that work processes, disruptive technologies and the scalar expansion of markets leads to conditions not of fisherfolk's choosing. But I also balance this conclusion with my findings that gender discourses are tools for fisherfolk as they advocate for desired change, and sometimes accomplish just that.

2. Methodology

2.1. Major debates in qualitative and feminist methods in geography

The history of qualitative methods in geography is long, and one that dates to at least the beginning of the 20th century. Yet the persistence of qualitative methodology in human geography should not be confused with an uncontested trajectory. The quantitative revolution ushered in an important shift in the post-war era though, as Winchester and Rofe (2010, 18) argue, this may have been more of a blip than a “revolution.” Qualitative methods then saw a resurgence in the 1980s/1990s when feminist critiques of science introduced important questions that continue to resonate for human geographers, including those that pertain to how they theorize knowledge and go about conducting and representing their research. Yet in recent years, scholars have started to think of the qualitative/quantitative divide as somewhat of a false dichotomy (e.g., Winchester and Rofe 2010). For example, mixed methods and non-quantitative approaches to GIS in particular have demonstrated how it is possible to de-link choice of method from an assumed corresponding epistemological position (e.g., Nightingale 2003, Pavlovskaya 2009, Rocheleau 1995). It is possible to use such a synergy to simultaneously engage the tools of masculinist science and demonstrate the situatedness of all knowledge in ways that cannot be easily interpreted as “soft” by qualitative methods’ critics (Crang 2002). This de-linking has led to the ascendance of “post-positivist” approaches to human geography, including those inspired by humanist, Marxist, political economic and post-structuralist traditions (see Mansvelt and Berg 2010). This chapter will review these and related debates in feminist methodology, before explicating my approach to collecting data in the field. I used a variety of methods, including participant observation,

interviews, document collection and the administering of a survey with boat owners. My assumptions, ontological choices and methods stemmed from my necessarily entangled positions as a white foreign woman trained in the Western academy (cf. Sundberg 2015). In the concluding chapter of the dissertation, after I present my findings and analysis, I will reflect on how a differently situated researcher might have undertaken an approach that resulted in different findings.

2.1.1. Feminist critiques of science

Qualitative methods in geography have been hard to separate from feminist debates and their epistemological influences, especially critiques of science in the 1980s and 1990s (Crang 2002). Donna Haraway's notion of "situated knowledges" (1991) was especially significant, and emerged as a critique of positivist science, which seemed to speak about everything from nowhere through performing the now infamous "god-trick" (189). Such an approach to science, not unlike the spatial scientists and proponents of the "quantitative revolution" in geography, was based on a Comtean notion of a singular truth, i.e. the idea that certain accounts of the world were objective because of the unbiased, detached application of the scientific method, which when applied rigorously produced Truth. Such a theorization of objectivity also had a flipside—subjectivity—which reflected positivism's anti-thesis: research that was influenced by personal values, politics, and arrived at by highly un-scientific methods (see Mansvelt and Berg 2010, 334-5).

Yet Haraway (1991), in her synthesis of feminist empiricist and social constructivist strands of thought argued that disembodied knowledge production was not unbiased simply because it claimed to be. In contrast, she theorized that a "feminist

version of objectivity” (186), or what Harding (1986) had called a “successor science,” was possible, but only through making explicit how the knowledge one was presenting as true had come to be socially constructed. Positioning knowledge in this way was the key to creating multiple accounts of the world, including those from previously marginalized perspectives, which, together, would ultimately provide more holistic and accurate depictions. Contesting quantitative and spatial science’s universalist claims to objectivity in line with Haraway’s intervention provided a powerful rationale for the value of qualitative approaches by exposing the underbelly of masculinist *science*.

2.1.2. *Considerations of positionality and reflexivity*

Acknowledging the social construction of all knowledge raised the important question of how best to apply this insight to the interrelated processes of doing research and representing findings to broader publics (DeLyser and Pawson 2010). Feminist geographers in particular addressed the issue by developing a notion of reflexivity and integrating it into their research practices (Moss 2005). For McDowell (1992), reflexivity was about being aware of one’s position vis-à-vis research respondents and writing these relationships into the research through related publications. Moss (1995) added that there was an institutional component to be taken into consideration as well since one’s academic field could not be separated from history or politics.²⁸ Studies in the 1990s in particular placed huge emphasis on researcher-researched relationships, perhaps in partial response to the crisis of representation that had stemmed from scholars’ concerns with

²⁸ For example, geography’s role in facilitating French imperialism in Egypt (see Said). See also Watson and Till (2010) who caution that there’s a danger in interpreting positionality as an identity crisis since the research and questions being asked are necessarily located in institutions and discourses that have histories and politics.

translating the messiness of fieldwork into authoritative accounts (Crang 2005), a theme that I will return to below.

Yet scholars have also raised important questions about the limits of reflexivity as a research and writing strategy (see Kobayashi 2003). For example, Rose (1997) critiques what she sees as the implicit notion of “transparent reflexivity” for assuming that the ever-changing identities, motivations and power dynamics of researchers and informants can ever be fully known. Nagar and Geiger (2007, as cited by Laliberté and Schurr 2015) add that “reflexive” scholarship can actually reify the social differences that it, as a practice, is meant to address. Highlighting their field experiences in South Sudan and Honduras, Faria and Mollett (2014, 1) add that “assumptions that researchers are always and everywhere in authority, while those we study are inherently marginalized, continue to naturalize difference in our field sites.” Their critical feminist approach underscores the importance of writing whiteness into research outputs to “color the field” (Kobayashi 1994) in a way that avoids reverting back to crisis point. For Faria and Mollett (2014), conceptualizing white bodies as inspiring awe and suspicion in research participants introduced an important dynamic into understanding researcher-researched relations. Because participants associated the researchers’ bodies with the agents of colonization, the authors argue that race is coproduced with other social differences in such a way that the affective performance of subjectivities can become data that is useful to reflect on how race and gender, for example, are made and (can be) unmade in diverse research settings.

This turn towards a critical reflexivity grounded in emotional geographies (see Laliberté and Schurr 2015) follows on the heels of other criticisms that being self-aware

was necessary but insufficient when conducting socially scientific research. As Bourdieu (2003, 282) put it, "observing oneself observing" (as cited in Winchester and Rofe 2010) was no substitute for empirically rigorous and theoretically engaged studies. Geographers employing qualitative methods could not just argue that in making their data collection and representational practices "transparent" they were articulating objective visions of the world. So in a way the dilemma of what counted as evidence has become what counts as good evidence. How, specifically, could researchers reveal the messiness of fieldwork without undermining their claims that qualitative methods too can separate signals from the noise?

2.1.3. Research design: what counts as (good) data?

One way that geographers using qualitative methods have dealt with this concern has been to think carefully through research design. Research design refers to a researcher's plans that define the variables (Bryman 2004), or ontological categories, under study that simultaneously communicate his or her interpretations of how theoretical concepts can be mapped onto social worlds. One way of making an in-depth case study of a particular locale or phenomenon speak to wider debates is to take the process of case selection seriously.

As Herbert (2010) suggests, there are three principle avenues to doing this. The first is to choose a case that is representative of the broader phenomenon under study- this could mean choosing a case that clearly belongs to a category of cases, this category being something the research aims to talk about.²⁹ The second design is comparative where two contrasting cases are chosen to reflect on the thing that differentiates them.

²⁹ Small (2009) interjects that it is impossible to identify a "representative" case, which the author illustrates through his students' attempts to find and then study a "typical" neighborhood.

And the third is an anomalous case study design where the case is chosen because in some ways it does not conform to predictions that prevailing theories suggest are relevant, and the research is designed to figure out why this may be so (ibid.). In their schematic of three “distinct logics-in-use”, Skocpol and Somers (1980) distinguish between 1) macro-causal analysis; 2) parallel demonstration of theory; and 3) contrast of contexts. The first type attempts to determine the presence or absence of a social phenomenon across contexts, testing for the causality of macro-social structures and processes by isolating variables that may explain why society functions in a certain way. The second type identifies many cases that are of one type to explicate the salience of a single theoretical framework. And the third type emphasizes the uniqueness of each case, bringing in detailed evidence to reflect on the distinct confluence of factors that led to a certain historical development. The authors argue that each logic has its own strengths and limitations. Often, they are effectively used in concert with one another. For instance, in the authors’ words, and as a result of the rationale for case selection according to the parallel logic:

no matter how many cases are discussed, the historical analyses themselves do not validate the theory. They can only illustrate and clarify it—and, potentially, refine it. This is because, quite obviously, the cases are selected in the first place in terms of the given theory. And the juxtaposed historical trajectories are not used to establish controls, only to show the theory at work again and again (ibid., 191).

across multiple contexts to reflect on the causality of a social phenomenon as it relates to macro-social structures. The contrasting logic, on the other hand, offers “descriptive holism” (ibid., 192), but does not tend to explicitly state its underlying theoretical frameworks. Lastly, macro-causal analysis can contribute significantly to general theory-building, but inasmuch as hypotheses developed in this way are fruitfully confirmed, de-

bunked or nuanced by grounded case study analyses. Both typologies for thinking through case selection provide strategies for qualitative researchers in choosing a fieldsite, for example. In so doing, these schematics also provide a framework for thinking through how a given case study (or set of case studies) can contribute to theory-building and Theory-dismantling.

Likewise, the number and selection of informants in qualitative research relies on different criteria than quantitative research- for example, in contrast to randomized control trials, strategies for ensuring rigor in qualitative research include choosing informants purposively according to a set of criteria that maximizes variation among them and aiming for theoretical saturation rather than statistical representativeness (Bernard 2011). Other important strategies for improving rigor in qualitative research include opening one's research up to outside scrutiny, incorporating checking procedures with informant communities, and employing triangulation where multiple sources of data are used to reflect on the researcher's emerging analysis (Bradshaw and Stratford 2010).

Another trend has been for geographers to unsettle qualitative/quantitative divides by engaging with mixed methods in order to highlight the situatedness of all knowledges³⁰. A de-linking of epistemological stance (e.g., positivist v. non-positivist) from the method a researcher chooses has rectified the former impression that if one employed qualitative methods one was a non-positivist whereas if one employed quantitative methods one was a positivist, which was an issue particularly salient to feminists in their debates over if there was a feminist method (e.g., McDowell 1992, Moss 2005, Sharp 2005). However, more recent work tends to unsettle this dichotomy.

³⁰ Situatedness in this context refers to the necessarily embodied nature of knowledge production. Both the social and geopolitical positions of the analyst and research participants, for instance, affect what they deem important enough to investigate and feel comfortable disclosing.

For example, in her study of community forestry in Nepal, Nightingale (2003), collected oral ecological histories from local resource users and used aerial photographs of land cover to assess forest change over time. Both of these methods were internally valid and consistent but told different stories about how a transition from state-controlled to community-based forestry management affected the availability of forestry products over time. On the one hand, analysis of the remotely sensed photo imagery suggested that there was little change in land cover from 1976 to the 1990s. On the other hand, people emphasized improvements when discussing their perceptions of forest change. Directly interrogating this contradiction enriched Nightingale's analysis by allowing her to tell a more nuanced story. She ultimately concluded that villagers were talking about specific parts of the forest that were valuable to them and emphasizing improvement because this was the condition of keeping the forest under community control. The deal with government was that if forest conditions deteriorated, they would have to relinquish control. Hence perceptions of forest change and resource control were inseparable but not in the ways Nightingale had originally presumed. Another recent example of using mixed methods in ways that de-link assumed epistemological frameworks from methods chosen lies in the critical geographic information systems (GIS) field, which has taken seriously feminist critiques of knowledge production but used tools previously thought of as quantitative to do so (see Sharp 2005). These and other exciting developments highlight the partiality of all knowledge in ways that lead to fuller accounts of the phenomena under study.

The confluence of taking the social construction of knowledge *and* empiricism seriously—two hallmarks of post-positivist thought—has facilitated new ways of

thinking about how geographers have historically done qualitative research and also inspired methodological innovations, especially when it comes to thinking through embodiment, performance and affect (Davies and Dwyer 2007). This influence can be seen in interviewing, for example, where McDowell (2010) has remarked that, in contrast to a view that was prevalent up until the 1970s where interviews were seen as a scientific exercise defined by rigor, objectivity and replicability, administered with a “survey instrument,” which was used to elicit information from interviewees that was then used as data, it is more common for the information generated in the course of an interview to be understood as co-created by the interviewer and interviewee today. Moreover, the content of interviews is not only taken as data but so too are the ways people communicate, their affect and body language (see also Dyck 2006, Sutherland 2004, as cited by Davies and Dwyer 2007, and Valentine 1999).

A shift from “objective” to interpretive methodologies can also be seen in the practice of life history interviewing where life histories are no longer seen as reliable, objective accounts of the past. Rather, as Jackson and Russell (2010, 182) argue, there is a recognition that these accounts depend in large part on the relationship between the interviewee and the interviewer, the questions asked and the informants’ recollections of the past in light of their present experiences. Focus groups have likewise been re-thought of as a stage set for collaborative performances (Bosco and Herman 2010) where researchers have the opportunity to see how people interact with one another and respond to one another’s ideas (Cameron 2010). Participant observation has also come to be seen as an intentional endeavor. In contrast to experimental designs, for example, where a lab scientist may observe how chimps mirror one another’s emotional behavior, feminist

critiques of science have helped re-conceptualize observations as “the outcome of active choice rather than mere exposure” (Kearns 2010, 242).

2.1.4. The politics of representation

Yet as Mansvelt and Berg (2010) argue, post-structural critiques of (neo)positivism have important implications not only for how we do research but how we write it. Though there is a widespread tendency to think of writing and research as distinct processes, these authors see the two processes as mutually constitutive; how researchers write about their research conditions how they think about the research and, in turn, how they will approach similar topics in future. But as Myers (2010) argues, it is also important to be aware of the predicament raised by post-colonial theorists such as Said who, in his critique of Orientalist discourses emanating in the West, asked: who speaks? For what and for whom? It may be useful to elaborate on Said’s ideas here because they so presciently highlight the power relations and political agendas latent in research endeavors as well as the problematic of how to represent the Other without completely othering them.

According to Edward Said, Orientalism is an academic field, a way of thought and a discourse that naturalizes the polarization of the Orient and the Occident, and sets limits to what Western studies of the rest can say and investigate (1979). This discourse is characterized by knowledge about the Orient that is situated within networks and relations of power in the West, and speaks to these distributions of power more than any ‘empirical’ reality in the Orient (ibid: 12). Not only did knowledge about the Orient reflect Westerners’ political agendas in the age of empire (as in the mapping, measuring and describing of Egypt, for example) but it created an “other” of the “Orientals”, and

Arab Muslims in particular, that reinforced notions of European superiority over them. This, in turn, fuelled the civilizing missions of Napoleon's Geographers who saw themselves as part of the larger imperial project, as "soldiers of modernity" (Godlewska 1994), who could assert their authority over a population that was conceived as too backwards to be able to represent themselves. In short, Orientalism, geography and knowledge production cannot be separated from the geopolitical realities in which authors are enmeshed. So as researchers approach the field, analyze their data and write it up they must be mindful not only of their relationships with informants but how their academic institutions condition what they consider important to study in ways that do not project ethnocentric, or Orientalizing, assumptions or ways of seeing the world (see also Sundberg 2015).

The politics of representation has also been a hot topic in feminist thought where scholars have underscored the problems inherent in white middle-class women claiming to represent the voices and lived experiences of people of color (e.g., hooks 1992, Lorde 1984, Spivak 1988). Mohanty (1988) connects this theme to Said's work on orientalism to highlight how first-world feminists have projected their belief in patriarchy as the highest form of universal oppression onto who they portray as the quintessential third-world woman. Moreover, if this third-world woman is discursively produced as powerless as a result of her gender, the implication is that other forces (e.g., (post)colonialism, classism, capitalism) affecting women and men in the given setting pale in comparison to an ethnocentrically privileged patriarchy. In her own words:

An analysis of 'sexual difference' in the form of a cross-culturally singular, monolithic notion of patriarchy or male dominance leads to the construction of a similarly reductive and homogenous notion of what I shall call the 'third-world difference'- that stable, ahistorical something that apparently oppresses most if

not all the women in these countries. It is in the production of this ‘third-world difference’ that western feminisms appropriate and colonize the constitutive complexities which characterize the lives of women in these countries. It is in this process of discursive homogenization and systematization of the oppression of women in the third world that power is exercised in much of western feminist writing, and this power needs to be defined and named (ibid., 63).

What is at stake then is fundamentally a question about the authority that comes with authorship—a problem that comes to the fore, as feminist geographers argue, when they are insiders, outsiders, neither, both or in-between (Mullings 1999, see also Katz 1994, Kobayashi 1994, England 1994, Nast 1994, Sultana 2007). Emphasizing the importance of politically engaging with “marginalized” people in a way that cuts across academic commitments, Kobayashi (1994) re-centers the debate with her question: “who speaks *with* whom?” Nagar (2002) also calls on scholars to “talk across worlds” as they negotiate the demands of the academy with the political goals of their collaborators as a way to level the playing field and to hold themselves accountable to their research subjects.

In sum, epistemological developments inspired by feminist critiques of science and post-colonial critiques of the politics of knowledge production have influenced the ways geographers think about evidence, rigor, and how to represent their findings. Future studies in qualitative human geography will build on this rich intellectual heritage as they engage with innovations in how research is conducted, including taking embodiment and affect seriously, and as they re-assess the qualitative/quantitative divide in terms of how diverse methods can be used to enrich the theory of situated knowledges. With these thoughts in mind, I will now present an overview of the ways I approached the field, built rapport with research participants and attempted to make the social and economic worlds

of fisherfolk knowable. I start, and ultimately end (see chapter 6), with the premise that an array of complex and interlocking factors, including the mutual constitution of my and my informants' subject positions, necessarily influence(d) my findings. Combining this epistemologically critical stance with a commitment to feminist empiricism, I consider this dissertation part of a larger post-positivist project. This continues a tradition of working in the "boundary zone between positivist and critical paradigms, consciously combining critical theory, empirical fieldworks, and quantitative and qualitative analysis" in geography and political ecology (Rocheleau 1995, 458).

2.2. Sardinella in Senegal case study

In this section, I attempt to position myself vis-à-vis my fieldsite and research participants as a response to feminist critiques that knowledge production must be situated. I accomplish this by tracing the five major stages of data collection (i.e., participant observation, the administration of a survey with boat owners, semi-structured interviews, focus groups and document collection), and interweave this discussion with key themes raised in the literature and through the course of research. These include: linguistic acuity and its value in qualitative research; the politics of language, especially surrounding Wolofization; establishing myself as a woman through participating and observing woman's work in the fishing economy; strategies for gaining informed consent in culturally appropriate ways; how I worked with field assistants; and some of the particular challenges posed and opportunities afforded to me as a result of my position as a white foreign woman of child-bearing age (but without children).

A collaborative fisheries management project financed by the United States Agency of International Development (i.e., USAID/COMFISH) served as my host institution, facilitating key connections and providing office space in Dakar and Joal. The project worked with resource users engaged in five particular fisheries, including sardinella, and so I also had information regarding key community meetings and standing invitations to them that I otherwise would not have enjoyed. My attendance at these meetings, especially in the early stages of research, helped raise my visibility as a student interested in fish production systems. My direct association with an agency of the American federal government, and funding from the Fulbright-Hays commission undoubtedly entangled me in a set of geopolitics whose scope extends beyond the topic of this dissertation. Being implicated in this foreign aid project may have aroused suspicion among some participants, though no one explicitly articulated this concern. But this situation also helped me to establish professional credibility and position myself quite clearly as an American. On balance, I think my association with USAID/COMFISH facilitated access to research participants by helping me enroll fisherfolk and cosmopolitan entrepreneurs, government officials and development practitioners in the survey, interview and focus group components of the research.

2.2.1. Gatekeepers, transience and the politics of language

During my first month back in Joal in December 2012, I made first contact with key gatekeepers such as the leaders of the association governing the quay and the two artisanal fish processing areas. Professional contacts I had previously made in Dakar and Joal as an undergraduate (summer 2005, December 2005- January 2006) and as a doctoral student conducting reconnaissance research (summer 2011) had given me the

phone numbers of these gatekeepers, suggesting that I go to greet them and explain my reason for being in Senegal to study the fishing sector. I also hoped that extending this courtesy would play the dual role of enrolling their support in my project as I asked them their advice on how best to proceed and if they could introduce me to relevant fisherfolk. Some of these interactions were pro-forma. I would greet leaders and chat informally about recent happenings in the sector and my ultimate goal of being able to share the story of Senegalese fishing communities with my community of students and scholars back in the US. Others were more telling. For instance, the president of Khelkom, the fish processing site where I would end up spending much of my time, hardly had the time to sit down with me, only doing so when one of her workmates explained that I had also been to Joal in 2005 when I had been close with an age-mate of hers who had recently passed away from complications with diabetes. The president, Fatoumata,³¹ was a force to be reckoned with. She had her hands in many pots, always moving, delegating tasks and expressing strong opinions. She was a community leader, active in the local Catholic Church and known for her ability to raise funds and funnel development resources from organizations such as UN Women and other large and small development organizations to people working in the site.

The women in the central area of Khelkom where she worked were organized into informal affinity groups, which numbered two to eight women who would share a common resting place (*mbaar*) made of benches covered in hay-filled mattresses, covered from the sun and rain by make-shift bamboo roofs. These female entrepreneurs tended to be well-established in the business as these resting places were part of the original processing site, which had significantly expanded over the past twenty years. Affinity

³¹ All names used are pseudonyms.

group members would maintain separate accounts and activities but also oversee a fellow members' employees, sell her product or perform routine tasks such as turning over drying fish in her absence if, for instance, she had to travel or stay at home, sick. These women would also share lunch, rotating cooking responsibilities, usually having a younger family member prepare and deliver lunch for them all to share on a given day. Lastly, these groups would also help organize the disbursement of loans and other resources, providing a structure for development organizations to make sense of the informal economies at work.

Early on in this initial phase of research, Rokia, one of Fatoumata's resting place mates, offered to take me to Tann Ba, the second processing site in Joal, where her husband worked in the sardinella business. I met Rokia around 5pm one afternoon and together with Fatoumata and another businesswoman took a donkey-driven cart to the site, about three kilometers away. As we went, we chatted about my time in Joal in 2005, reminiscing about how I had braided my hair and gone to the tailor to order clothes made in vibrantly colored wax fabrics.

We arrived at the vast site of cement block ovens and corrugated tin warehouses, which was virtually empty. Of the few people working were women sweeping the bamboo stands used to sun-dry sardinella and gleaning fish bones and other scraps that had dropped on the sandy ground. It felt like a pause in a huge factory's tight production schedule—a factory that churned out preserved fish for the Burkinabe market.

As Rokia introduced me to her husband and we started to chat about how he knew my host family, a younger man wearing a torn t-shirt and a woolen cap approached us. When he learned that I was American, he shared with me that his village in the Kolda region

hosted a Peace Corps volunteer a few years ago. Unlike the French, he said, Americans were really good at learning local languages. And he added that this really pleased the Senegalese people. I explained that Peace Corps volunteers go through three months of intensive language training before being placed in their fieldsites. Plus, there were government-funded initiatives encouraging students like me to learn Wolof because of the strong friendship the two countries share. He nodded, commenting that he was happy that President Obama was going to visit Senegal in his upcoming Africa tour. Doing fieldwork in a country that US diplomatic officials herald as an example of a stable African democracy seemed to facilitate this sort of friendly cross-national conversation.

Suddenly, a white-bearded man wearing a linen tunic pulled up on a shiny red and white motorbike, revving the engine before diving into conversation with my entourage about the following day's town meeting with the president of the association governing the quay who I had met earlier in the week. After they confirmed the timing and place of the meeting, the white-bearded man who I would learn was the president of Tann Ba asked the young man who had been talking to me about the Peace Corps who I was. He responded simply that I was a student. "Oh a student!" the president interjected in Wolof. "Students come here, they want to know everything, they go home and then you never hear from them again."

I glanced back to Rokia who shifted uncomfortably from one foot to the other, letting on that I was privy to this conversation that the president assumed was private. "She understands Wolof," Rokia interjected, almost whispering. Her husband paused, looking at his wife before starting to explain that I was a student who came to study the sardinella

economy... Then he looked to me, gesturing for me to speak and insisting it would be better for me to explain why I had come for myself.

In the most polite Wolof I could muster, I introduced myself, telling him that I was from the US and came to do research on fishing economies in Senegal so that one day I could become a professor and teach other Americans about the importance of the sector. I highlighted that I had worked with the women fish processors at Khelkom before and that I wanted to come to Tann Ba to see how unsalted dried sardinella (*keccax sans sel*) was made. Arms folded over his large belly, an eyebrow raised, the president, whose name I learned was Mamadou, agreed to talk to me the next time I came to the site and gave me his phone number. Fatoumata called Rokia from the other side of the site to hurry us along as the donkey cart was waiting and the sun was setting. As we said our goodbyes, I bid Mamadou peace and well wishes and added with a wink that he should greet the president of the quay, Famara, for me tomorrow. He emitted a full-throated laugh in acknowledgement that I understood the preceding conversation and surprise that I knew the president of the quay by name. Our group climbed onto the donkey-driven cart. I settled into my seat as Rokia asks me who, in the end, was going to pay for the driver. I said that I would but explained that I didn't have the equivalent of 2 USD in change.

Over the course of fieldwork, I sat down twice to talk with Mamadou about the history of the sardinella economy in Joal. I also saw him at community planning events that my host institution put on where he would tease me for not calling him or visiting him enough. I was only interested in Khelkom like all the other foreigners who passed through who were interested in women's issues, he would add. What I found refreshing about my initial interaction with him was the transparency with which he expressed his

distrust of me in contrast to other participants who likely had reservations about a student such as me “studying” them but did not voice them so they were harder to address. For some, my concerns were tangential to the real work of fish production—once the Khelkom president commented that she did not understand how what I did was work in contrast to her own that made tangible products that could be bought and sold. This observation spoke to my class privilege of having been educated in a particular way and being able to support myself by producing knowledge in faraway locales. My advanced proficiency in Wolof facilitated making initial connections with fisherfolk, but also highlight the role that language politics play in qualitative research interactions on at least three levels.

2.2.1.1. Colonial history and linguistic heritage

First, it is important to understand that two major cities (Saint-Louis and Dakar) in what is today Senegal served as the capitals of French West Africa during the colonial era. In a wave of independence movements across the continent, Senegal became an independent democracy in 1960 but geopolitical, commercial and cultural ties to France remain strong. An important post-colonial legacy is linguistic; the administrative language of Senegal is French, which is also the primary language of instruction in public schools. As such, it is a language of the educated elite whereas Wolof is the key means of communication among speakers of other languages. As McLaughlin (2008, 85) estimates, nine out of ten Senegalese people use Wolof as a first or second language even though only 40 percent of the population is ethnically Wolof. Wolofization, or the spread of Wolof as the national lingua franca, she argues, has played a key role in cementing national identity in Senegal.

The young man with whom I spoke at Tann Ba also expressed a common concern towards the French (and others who spend significant time in the country but do not learn local languages) because of their reputation for insisting to speak in their mother tongue, which can exclude people like him who have not had the opportunity to go to school. This stereotype, which feeds into historical resentments, is reinforced by the significance of the expatriate community who tend to be engaged in business, retired or attached in some capacity to the French military base in Dakar. In contrast, some Americans living in Senegal have fostered goodwill by learning local languages. Not all Americans speak Wolof. Nor do all French people refuse to learn it. Yet this is the impression that many Senegalese have, thanks in large part to the sizeable presence of the Peace Corps. And being an American who speaks Wolof cannot be separated from these geopolitical contexts and linguistic realities.

2.2.1.2. Markers of rootedness for footloose researchers

Second, as much as I would like to think of my professional working proficiency in Wolof as a marker of a certain rootedness in Senegalese communities, it is important to acknowledge that speaking local tongues does not resolve the key political dilemma faced by footloose researchers. As Nagar (2002) highlights, many Western/Northern scholars make it a point to speak in local languages and idioms when they work in the developing world yet break this commitment to making their work accessible to wider audiences when they write theoretical accounts in ways that speak to the institutional agendas of the academies they serve.³² In her words:

Transnational feminist conversations, especially between worlds as far removed from each other as the ones I have described, cannot be productive unless feminist

³² See also Sidaway (2000).

academics based in Western/Northern institutions produce research agendas and knowledges that do not merely address what is theoretically exciting or trendy *here*, but also what is considered politically imperative by the communities we work with or are committed to over *there* (ibid.,184).

For her, engaging with a politics of identity-based reflexivity is sometimes necessary but certainly not sufficient in addressing the authority and privilege that comes with authorship. Nor does such an approach reveal the ways in which research and deliverables can be made useful to the communities we aim to serve. This is to say that fluency in Wolof helped me build rapport with gatekeepers, which was an important step in negotiating access to further informants through snowballing, because it showed that I, as a student, was committed to exchanging ideas with Senegalese people regardless of socio-economic or ethnic background. But as the interactions I highlighted above and Nagar show, fluency in Wolof does not erase the important issue of my transience; as a doctoral student based in the US, I am very mobile and largely able to come and go to West Africa as I please in order to collect information for purposes that I and my academic field deem useful. With this privilege comes responsibility though it is a recurring challenge to pinpoint how best to make good on this commitment.

2.2.1.3. *Tensions around Wolofization*

Third, I should add that speaking Wolof later became a point of contention with Sereer fishers who emphasized that if I was spending time with them and wanting to learn from them then I had better learn their dialect from the Sine Saloum islands called Niominka. I was not able to straightforwardly address their concerns in their native tongue and I got the impression that my research assistants were reluctant to translate these conversations to me because it put them in an awkward position, perhaps because they did not want to reveal the dialogues assumed to be private about the chutzpah of a foreigner wanting to

learn about fishing but not speaking certain fisherfolk's languages. This particular linguistic challenge made it difficult for me to integrate into the tightly-knit communities of Niominka fishers and boat owners who predominated one seaside neighborhood I worked in. I would sit with these men as they repaired nets by hand and talked shop but my research assistants were not able to translate everything without disrupting the flow of conversation. When I would ask for translations of an exchange that ended in laughter or disagreement, the fishers would say "you speak French, Wolof and now it is time to speak Sereer!" This seemed a way for them to put distance between us and to maintain privacy from my research-based curiosities. But perhaps it also spoke to a deeper frustration with Wolof speakers who have historically been monolingual whereas Sereer speakers have been bilingual (in Sereer and Wolof, see McLaughlin 2008). Still, my lack of knowledge of Sereer, beyond a few elementary greetings, gave me a deeper appreciation for my ability to sit in on conversations in Wolof and follow without being too intrusive.

From December 2012 to February 2013, I conducted 17 interviews with people I will designate as fishing elders, people who are respected in the community and turned to for advice in decision-making or for help in resolving conflicts. Negotiating access to fishing communities through gatekeepers was not a once-off event, however. Greeting, explaining my research aims and then asking for and conducting a semi-structured interview with these figures was just an introduction that formed the basis for relationships that evolved over time. These symbolic acts of courtesy, respect and deference were appreciated by some and not by others. But it seemed like a good place to start in forging a foundation for professional connections.

2.2.2. *Participant observation, critical reflexivity and placing the Western woman*

“Like the god-trick, the goddess-trick is an illusion” (Rose 1997, 311).

Overlapping with the time I spent conducting introductory meetings and interviews with key gatekeepers, I started to get into a rhythm of going to Khelkom on a near daily basis. My goal was to conduct a period of intensive participant observation at the beginning of the research period in light of its multiple potential benefits. First, I reasoned, participating in daily life would allow me to acquire more specialized vocabulary in French and Wolof that pertained to the fishing economy, which I could use to refine the questions I planned to ask in the upcoming survey and interviews. Second, it would help build rapport with informants and generate observations that I could subsequently explore in more structured formats as the research progressed. Third, simply being visible in the community for a relatively substantial period of time before asking people to participate more formally would give potential informants a frame of reference for understanding who I was and what my project was about. Yet how I went about this process, i.e., how I positioned myself and my research would have important implications for what I was able to glean from these interactions.

My Senegalese namesake, Rama, who had bestowed her name to me on my first trip to Senegal eight years before, worked as an owner-operator in the fish processing business in Khelkom. She acted as a reference for me for introductions to other fisherfolk, and was also someone I could informally chat with about my observations throughout my research period. I had first met her when I travelled to Joal with a group of college students in 2005 to work on a community service project and to do research on

microfinance and how it might contribute to women's empowerment in a highly polygynous context for my senior thesis project. The last time I had seen Rama was in the summer of 2011 when I had visited Joal as part of my preliminary dissertation research. When I saw her again in 2012, we exchanged news and then I explained that I was back again for at least a year to do research for my dissertation because I was studying to be a professor. She nodded in support and suggested I meet with her colleague who was involved in the sardinella business. Her colleague agreed to make some introductions, and made the first to her daughter who was a *femme formatrice* who specializing in *keccax*. Jacqueline ran her own business and introduced me to her workmate who shared the same *mbaar*, Aida. She walked me to her husband's working place where a fish production operation was going on—the fire was burning in large cement block ovens, emitting smoke. Young men were controlling the heat by alternatively fanning or pouring water over the embers. Lazing on the outskirts of the operation, I met Madame Senghor, a thin Toucouleur woman in her forties who offered to show me the ropes the following day.

The next morning I returned to the same spot and joined Madame Senghor who was sitting on an overturned bucket in a loosely formed circle around a pile of braised sardinella, taking one at a time to remove the heads and scales and then placing them in plastic containers that young men would empty on racks to facilitate drying in the sun.³³ I would learn that Madame Senghor, like other fish cleaners (*xoolikat*), was paid piece-meal rates for her work- at the time of fieldwork, approximately .13 USD per bucket. On a good day when there was a lot of work to be had, she estimated she could clean ten to fifteen buckets, making 1.30-1.95 USD. It is precarious work; when there is no fish, there

³³ Men who unload fish from carts to the processing site are referred to as *yobbukatu jën*.

is no work. These going rates give a sense of the means of these research participants and the enormous gap in financial power that I had with them.

From my time in 2005, I was familiar with cleaning fish but it had been a while and so needed a refresher. I gently greeted a group of several women, asking if they had passed the night in peace. I shook their hands, or rather forearms according to the custom in case one's hands are dirty, which they were from the work they were engaged in. My first impression was striking and still vivid: half a dozen women, one with a baby tied on her back, and a girl, all dressed in colorful and fraying clothing hunching on stools over manual work, with two men in their thirties standing to one side. Madame Senghor's colleague, Maty, finished filling a bucket just as I came over and beckoned for one of the men to come collect it (*kai jel pan bi*). This led to a terse negotiation over if it was, indeed, full. The *yobbukat* told her that it was not complete (*fessul daara*). Maty countered that it certainly was (*fess na kay!*). The *yobbukat*, at least ten years the woman's junior, leaned to one side, shook his head and refused to make a mark on her ticket, a torn piece of re-purposed cardboard that would later be tallied to calculate her compensation for the day. Maty, rolling her eyes in protest, continued to clean fish until she filled the bucket in question so that its contents rose a couple of inches above its rim. I interpreted this moment as one of acquiescence. What negotiating power did this woman have when work was scant and she could easily be replaced? The other man, who I later learned was called Ousseinou, was the head supervisor. His body language communicated an air of confidence and satisfaction—broad smile, posture straight and shoulders back—but also relaxed in his authority as he perched on an adjacent cement block oven, surveying the work at hand. At the time, from the quasi-aerial gaze I

occupied as an honorary male standing next to Ousseinou, I could not help but interpret this as a scene of male dominance and female subordination. As a white foreigner, I would sometimes be invited to, for example, sit at the men's dining bowl at lunch. Other times, I would be invited to weigh in on community issues that, in my opinion, Senegalese women of my age knew far more about than me. This honorary maleness meant that my gender was not always the primary social difference that mattered in my interactions in the field. I had privileges that other women did not hold. This meant that sometimes I had to conscientiously assert my femaleness in order to participate in the gendered social relations I was hoping to observe. But in this moment, as an observer-not-yet-participant, the scene of women performing manual labor recalled to mind the image of the victimized women who had been squeezed out of the profitable niches of fish production systems who I had read about in the gender, globalization and fishing literature.

Madame Senghor then offered me her seat and gave me a handful of fish to start, demonstrating how to peel the scales off of the fish and remove the heads without taking off too much meat. As she demonstrated the technique, I mimicked her, and the women in the group would intervene and take the fish from my hands, correcting me. Occupying this role allowed me to acknowledge the particular expertise of these women. As a Westerner, I could not help being associated with other expatriates, including development professionals, who would occasionally visit these types of sites, offer new technologies or resources, perhaps hold a press conference and then leave. Framing myself as a beginner certainly did not erase this context for understanding who I was. But it did show my willingness to learn, invest in relationships and spend time forming a

particular variant of my gender subjectivity. After that first day of cleaning fish, I developed a sinus infection from the billows of smoke, requiring me to take a couple days off before returning to Khelkom. When I returned, Madame Senghor and her coworkers suggested I go to the market and buy a white mask on elastic string that one might use in the US when painting the interior of a room. This, plus a pair of sunglasses and headscarf, helped to protect me somewhat from the hazards posed by the harsh working conditions these fisherfolk had become accustomed to.

2.2.2.1. *The intention to create safe space*

As I started to come to Khelkom more regularly and spend more time with this work group, I came to feel more comfortable in my new role, which allowed me to field conversations with my co-workers that might have otherwise been out of place. For instance, a middle-aged woman wearing gold plaqué earrings one morning asked me if I was a potential investor like other (West African) foreigners who had come and started by cleaning fish before starting their own operations. I assured her that I was not looking to start my own business. This was a common question I encountered: if, indeed, I was hoping to braise fish (*lakk jën*).

Participating and observing in this kind of work over an extended period of time allowed me multiple opportunities to explain my motivation for being in Joal. I also like to think that it created a safe space for the women I was working with to try to understand who I was. I was used to being asked if I was married. In everyday conversations, it was indeed one of the first questions women and men alike would ask me. As I discussed in the introduction, this is a key marker of adulthood in Senegal; my answer acted as a proxy for age and social maturity. But as I started to spend more time cleaning fish, my

workmates started to ask more pointed questions to locate me in the constellation of Senegalese gendered identities. Could I tie a baby on my back? Did I know how to wash my own clothes by hand? Did I have my own maid? How often did I speak with my (then) husband who was living in another country? When we talked, who calls who and who pays the bill? How long have we been married? Why didn't we have children yet? Do I know how to cook (real food)? And the list went on... In retrospect, it seemed to me that these women were as curious about what it meant to be a woman in my culture as I was about theirs—the difference being, of course, that I was supporting myself through framing these and related questions in institutionally validated and expertly networked discourses.

2.2.2.2. *Barter and gift- exchange relationships in the field*

Though I intended to create a safe space where my interlocutors felt comfortable asking questions regarding my professional goals and personal life, the working relationships and friendships I made in this context also introduced some thorny questions. These included how best to participate in socially mediated exchanges of labor, things and money, and in such a way that recognized the value of informants' mentoring, socialization of and information-sharing with me. Recently, Pearson and Paige (2012) have contended that scholars who employ gift-giving as a strategy to gain access to informants in the field should do so mindfully. Here, I will briefly outline some key insights on exchange to consider the social meanings of such relationships, highlighting some lessons I learned from my own experiences.

In her ethnography of the Maimafu Gimi people in the Crater Mountain Wildlife Management Area, West (2006: 46-7) makes a useful distinction in understanding the

commodification of social relations constituting interdependence and production. Barter relationships, she emphasizes, are once-off events, which stand in contrast to a historically important framework of gift-exchange where people become fully human through enduring relationships of reciprocity with other people in Melanesia. In contemporary Papua New Guinea (PNG), she argues that locals' expectations of receiving "development" in exchange for their participation in conservation projects were largely left unfulfilled. This was despite Gimi people according "conservation-as-development actors" fully human status based on their assumption that investments in these relationships with practitioners would one day amount to greater access to education for local children, modern medicine and an airstrip (ibid., 112-3).

These insights recall Mauss (1990 [1925]) who, in his study of "archaic societies" in PNG, emphasized how gifts were material expressions of social relations since they reflected the connection of the giver and receiver as well as their capabilities to mobilize resources in the spirit of reciprocity. As a result of the imperative to reciprocate (an unreciprocated gift, he argued, amounted to the severing of social ties), exchange could potentially perpetuate or lessen inequalities. Alternatively, it could articulate an already existing relationship of equals. A relevant example: if a giver with more means gave so much that the receiver could not hope to reciprocate, or would have to go through extreme measures to do so, then the giver was not giving a gift in the altruistic sense of the word. Instead, they were perpetuating a skewed power dynamic by creating a situation in which the receiver could not reciprocate. This is one justification for many codes of research ethics that discourage researchers from giving their interlocutors extravagant gifts or sums of money. But in West's example, the failure of conservation

projects to deliver “development” could be interpreted as a failed social relationship, or contract: the “conservation-as-development actors” failed to ultimately become the full humans they were once understood to be.

These insights speak to the relationships I developed with fisherfolk. Exchanging gifts is also an important mode of establishing and reproducing social ties in Senegal, including among women through, *inter alia*, the exchange of cloth at marriage ceremonies. Buggenhagen (2012) demonstrates how these kinds of contributions to a friend, neighbor or kin’s religious ceremony also serve as investments, since the expectation is that the receiver (or someone related to the receiver) will repay in cash or in kind in the future. In another example, as in the case of baptisms, these networks of the gendered circulation of value mean that a senior woman may give a generous gift to a new mother who is the daughter of another senior woman who is the giver’s age mate. Such a display of economic means and willingness to share, Buggenhagen argues, amounts to a gift with strings attached, however. The giver’s expectation is that the grandmother of the newborn baby or the mother herself will reciprocate at some yet undetermined future date when the giver’s own daughter(s) give birth. Women then reproduce relationships of kinship and economic interdependence through the exchange of goods and money. Thus, the theme of reciprocal exchange, and the idea that it helps constitute personhood, also girds the foundations of, as in Buggenhagen’s examples, Wolof society.

Yet translating these ideas into practice sometimes proved difficult. For instance, how much was too much to give when seeking to become a social being in the eyes of my interlocutors? One (rookie) mistake I made was after I returned to the field after a

conference in the US. I had previously become friends with a successful fishmonger whom I met through work. We went to each other's homes on social and work visits on multiple occasions. We would talk about dating and marriage culture in the US and Senegal as well as the latest developments in the fishing economy. She made me laugh. And I enjoyed her and her family's company. I wanted to bring her something that she could not find in Senegal, and had heard her comment once on the prettiness of a weave an American actress was wearing on television one evening. So I bought her a hairpiece in the US that I subsequently found out represented something that was beyond her financial means. I did not anticipate her colleagues thereafter asking me if I was also planning on bringing them similar gifts. Neither did I realize the weight of the burden it put on her to reciprocate. Over the course of the remainder of my fieldwork, she (enthusiastically) gifted me cloth, commissioned her brother to tailor a dress and headscarf for me, and bought me a silver bracelet and ring set with engravings of my first name. In retrospect and in light of the cost of these counter-gifts, I thought that what I gave was too extravagant in this instance.

After consulting with friends in Dakar about the incident, I decided to continue a practice that I had started earlier on in my fieldwork. This involved attending my informants' families' religious ceremonies—namely baptisms—where I would bring one or two bars of laundry soap and a bag of powdered detergent. These small gifts were acknowledged and appreciated for their usefulness, since new babies require doing a lot of laundry. Soap and detergent were not only useful though. This gift also communicated my understanding of the women's work involved in caring for an infant among fisherfolk who could not afford disposable diapers, and did laundry by hand. Ceremonies were also

an opportunity to wear Senegalese dress for special occasions (*sansé*), including fancy shoes and jewelry, which provided a subject of conversation over the following days as I visited the port and worked at *Khelkom*. The manager of the USAID/COMFISH field office once commented on my attendance at such events, congratulating me for my social “integration.” I saw my attendance and gift-giving as small gestures of thanks, social occasions for fun and strategically helpful in heightening the visibility of my research.

Another place-based practice that fisherfolk appreciated was me dropping off sugar during the holy month of Ramadan. In Senegal, giving this sugar for the holiday (*sukar kör*) is a form of charity (*saraax*) given to family or friends who have less financial means than the giver does. Sugar is gifted since adults consume a lot of it as they prepare for, and break, the daily fast with coffee, Chinese gunpowder tea, sweetened milk and porridges. Sugar is very expensive relative to many other commodities since it is imported, so it is a way for the giver to help ease the recipient’s financial burden posed by fasting. It is also a friendly sort of charity that does not have patronizing connotations. Sugar is given in exchange for the recipient’s prayers. This is considered a fair exchange. At my research assistant Binta’s suggestion, I included the leaders who had introduced me to research assistants, boat owners and fishers in their neighborhoods (see below). She explained to me that young people with income also tend to give their elders *sukar kör* in exchange for blessings. When I made one such delivery to a neighborhood chief who had been helpful in facilitating the survey portion of this research, he prayed in a combination of Arabic and Wolof for the success of my project.

In contrast to these types of exchanges, I managed to set up a barter system with the woman who would take me under her wing for the day at *Khelkom*. I would either

contribute the fish I had cleaned to her bucket or I would hand her my marked ticket at the end of my work session, so that she would be paid for my labor. It would be hard to quantify the wealth of information, language skills and social standing I gained through these interactions. But I figured that the woman I accompanied on a given day spent time coaching me through the steps of how to clean the fish properly and so this would take away from important money-making time. I was also aware that there were often more women willing to work than fish to be peeled. I certainly did not want to be taking away anyone's income-generating activities as part of my research so I framed this small gesture as a thank you for showing me the ropes and as a symbolic offering of goodwill. I also hoped it would help contain these fisherfolk's expectations of my reciprocation within a single transaction, since I could not hope to contribute more in socially appropriate ways (i.e., baptisms, weddings, funerals) to everyone I worked with given my research time horizon. But we did sometimes exchange small gifts. Someone might offer to buy me a Nescafé as a vendor passed, and I would accept with thanks. Or I might bring in a special snack such as fruit to share with the group one day. On a few occasions, workers and business owners at *Khelkom* asked to borrow money from me. As a rule, I said maybe next time, emphasizing the financial situation that came with me being a student.

2.2.2.3. *Becoming a woman through women's work*

Cleaning fish was a gender and age appropriate task for me as an almost 30 year old woman. When I told people that I had cleaned fish the day before, I gained street credibility both in *Khelkom* and in other sites as I went about my research. On multiple occasions, I would receive validation as in “now that's the work of a Senegalese

woman!” It was also women’s work in the sense that it was precarious and low-paid. I would learn that a woman who cleans fish does it around her domestic work schedule, coming to the fish processing site only once she is done preparing breakfast for her family and taking a break when it is time to cook lunch. Mothers with young children also incorporate childcare into their work by bringing them along; mothers with infants carry babies on their backs, alternating between cleaning fish and breastfeeding. One informant who I met at the port one afternoon after having cleaned fish in the morning teased me, “that’s certainly woman’s work and I know why you’re doing it too—so you can go home and write about how strong Senegalese women are!” This insight grouped me with other feminist ethnographers who study the everyday lives of women because they consider them to have been historically marginalized from research accounts focusing on the public sphere (see Naples 2003, 7). This gendered coding of piecemeal and flexible work also placed me as a working woman through my involvement in a fish production system. It helped place my anomalous characteristics for a woman my age (i.e., being married for some time but without children, living apart from her husband to pursue career goals) within a Senegalese context of gendered work. In performing certain repetitive and affective tasks, I gained personhood through a production system by adhering to its gendered division of work.

2.2.2.4. *The problem of projecting female subordination*

In my attempts to be critically reflexive, which I have interpreted as meaning both making a conscious effort not to selectively edit my experiences and to highlight the experiences I deemed important as a way to generate data on what it means to be a Western woman here, there, then and now, my first impressions of these scenes raise

important questions posed by Mohanty (1988) who problematizes first world feminist projections of women's marginalization onto developing world contexts. For her, these types of feminist analyses do not focus "on uncovering the material and ideological specificities that constitute a group of women as 'powerless' in a particular context. It is rather on finding a variety of cases of 'powerless' groups of women to prove the general point that women as a group are powerless" (ibid., 66).³⁴ She might argue that my gaze was colonizing in that it othered these women as oppressed to forward my own political agenda that patriarchy is king and that the West is best in knowing how to dismantle it. Moreover, it is telling that I never thought to ask how the *yobbukat*, or male workers, were compensated for their labor. The systems of exploitation that they were presumably working under were not even on my radar. So I would agree that the cultural baggage I brought in with me cannot be separated from what I claim to know. It is true that I am not a neutral observer of the world. I pick up on certain cues and not others and tell stories based on the information that I (and others) deem meaningful.

How I participated in the fishing economy further illustrates this dynamic. Though inserting myself in the niche of fish cleaning seemed to be a natural extension of snowballing through my contacts at the time, in retrospect, it was not an unintentional act. I did in fact draw on my female-ness to claim belonging to a work-group made of women who accepted my being based on what they saw as this basic fact. In other words, I was a Westerner who made myself a woman by continuously engaging in a certain kind of handiwork with others. Being there, hunched on an overturned bucket next to a pile of braised sardinella, and not somewhere else, gave me insights into particular sets of social

³⁴ See also Pande (2015) who forwards a post-colonial critique of the feminist assumption that South Asian women do not have any influence in choosing their partners in "arranged" marriages.

relations, a certain aspect of the fishing economy, a certain gendered production of value that I became intimately involved in.

Rose (1997) argues that such attempts at situating knowledge production by engaging in reflexive research practices suggest that researchers' motivations are clear, unchanging and knowable. A component of the feminist methodological toolbox, such attempts at transparent reflexivity are problematic because, like the god-trick, they suggest that producing Truth is possible and the politics of fieldwork and representation are surmountable. But, as the quote that started this sub-section suggests, is this goddess-trick simply a response to the epistemological stance that knowledge can be produced from nowhere in that it spotlights a somewhere? I do not presume to have the answer to this question in general but I do think that describing the ways in which social difference and commonality are constituted helps demarcate the limits of my claims to know in particular. So, following Myers (2010, 383), and in giving my first impressions as I recall them, I have attempted to write myself into the research account in a way that elucidates the biases I bring to the table so that the reader can ultimately assess where those may have had impact but hopefully in a way that still tells the reader something new about the people I studied. In other words, my goal is not to claim to know one group of people as a way of knowing all but to concede that even a critical reflexivity is opaque and add that it is still worth exploring.

2.2.3. On being a white foreigner in Senegal

This section is written in response to Faria and Mollett (2014) who argue that race is no less relevant in the Global South where many fieldwork encounters take place than it is in the Global North where critical race studies tend to concentrate. For them, it is important

to make visible how whiteness comes into being in field sites and how it operates in interpersonal interactions as a way to whiten the field. Building on post-structural theorizations, they highlight how certain historically rooted meanings are associated with certain types of bodies—for example as in South Sudan where Faria’s brown body evoked a sense of distrust among research informants because they interpreted her being with a history of Arab intervention. In my case, unlike in the Senegalese capital where expatriates are a common sighting, my white skin was arguably the first thing people noticed about me in Joal. This meant that I had to address and manage fisherfolk’s expectations about what it meant to be a white person to them—for example, as a tourist seeking a good time and a taste of pre-modernity or as a neocolonialist with a hidden agenda who operates for his/her self-interest only.

2.2.3.1. Fisherfolk as a spectacle for tourists

In my first month of intensive participant observation, I was at Khelkom one morning, spending time with my new friend Soukèye as she arranged sardinella on the grills of a cement block oven (*téraaw*). As smoke billowed from a nearby fish-smoking operation at work, she explains to me that the fish she was handling was hers but that her younger brother (*rakk*) went to the quay to buy it on her behalf. “You know, he’s a man so...” she tailed off as I formulated my next question: “so women can’t go to the port?” Yes, they can, she corrected me, but you see Djime is my younger brother. I let this sit, confused by what she saw as commonsense. Before I respond, I heard the whirl of a bus motor revving down, parking a few hundred yards away, on a sandy path. It was a white bus with red lettering announcing a travel agency’s name *Nouvelles Frontières* (New Boundaries, or, Horizons) painted on the side. Soukèye and I turned to see a group of

approximately fifteen tourists descend the steps, equipped in African sight-seeing uniform: designer sunglasses, large floppy safari-inspired hats and shorts. The youngest among them was a woman nervously clutching her purse who looked to be in her late forties. The oldest was a sunburnt man sporting a backpack strapped on the front of his chest for safekeeping who could be in his seventies. The rest of the group fell somewhere in between. As they made their way along the narrow lanes between the ovens, the members of the crowd started to cough and sneeze and make unsuccessful attempts to cover their noses and mouths from the smoke with their shirtsleeves.

Guiding the group were two Senegalese men in their forties wearing well-pressed button-up shirts, slacks and nametags. The first was gesturing and stopping to explain various elements of the scene to the crowd as if it was at a museum exhibition with moving parts. The second was the venturer. He fanned out in front of the group to show them in which direction to head as he snapped landscape portraits with the tourists in the foreground with a flashy digital camera. The guides navigated what could be seen as chaos to a newcomer with skill. They had clearly been there before.

On this particular day, landings were impressive so many of the approximately one hundred ovens in the area were at some stage of production. There were maybe the same number of people working in the areas directly adjacent to the tourists' path. The kids who were either being minded by their mothers or who themselves were working for a wage stopped what they were doing and went to see what was going on. The women workers stood up from their wooden benches and overturned plastic buckets, continuing to clean fish but bent in half so they could better steal glances of the unannounced visitors, and their children.

The group files by where I am standing without acknowledging my presence. I cannot say that I was exactly welcoming either. I do not remember if I even took off the painting mask I had come accustomed to wearing.

After they had gone, a *xoolikat* who I had not met before approached me and asked, “Did they greet you? Because they didn’t greet us at all.” No, I explained, they did not but neither did I greet them. “Look,” she said, “it’s not any of my business (*suma yoon nekkul ci*) but they come, they don’t say hello to anyone as they walk by, they take photos and then they go home. It’s really very rude.” Soukèye intervened, “those are the (white) foreigners (*tubaab*) I told you about before. Did you get a good look at them? I don’t even know where they come from. Maybe France?” She shook her head. “You know in the past, they would bring sweets for the kids. It would make them happy. The kids would chant, ‘tubaab, tubaab!’ and get a little treat. But now the leader, you saw him, the tall one. He keeps the money (that would have been spent on candy) for himself.” She tsked in disapproval and turned back to her work.³⁵

At the time, I felt complimented by Soukèye and Madame Senghor’s confidences. I interpreted the inside scoop sharing as them considering me a part of their group since I was also shirked by the tubaab tourists. Through my greeting, participation and exchange, I thought of myself as a tubaab but not a tubaab *like them*. In retrospect, I cannot claim that such a moment of belonging was anything more than that: momentary. At other times, for instance, when I asked another member of my workgroup what her husband did for a living, she asked me “and why do you want to know what you are asking me?” I took this as an expression of suspicion that could not be dissociated from colonial

³⁵ I would learn that these type of events were common occurrences at Khelkom as well as at the quay at sunset where nearby all-inclusive resorts would run optional excursions to showcase Senegal’s authentic, exotic and therefore fashionable fishing economy.

histories of extraction. These occurrences then echo a theme in the literature that it might be useful to think of the insider/outsider dichotomy as a spectrum that a given person occupies in different places at different times. This more fluid notion is helpful because it works with the idea that identity is socially constructed and contingent, always emerging, with some elements taking precedence in certain moments and other elements in others. It also parallels Faria and Mollett (2014, 4) who “theorize race as historically and geographically contingent, yet also performed, affective and shifting.” My embodied whiteness did not, at all times, emerge as the primary axis of my social difference. Occasionally, through work and exchanges in Wolof, I was able to distance myself from other white Westerners to the extent that my coworkers would confide in me about them. This is not to discount the importance of race in thinking about researcher-researched relations in post-colonial contexts. Rather, emphasizing the seeming unimportance of my racialized body in this context highlights how crucial it is to think about the multiple aspects of human difference that emerge, converge and/or temporarily dissipate through interpersonal and structural relationships.

Before moving onto a discussion of gaining informed consent among interlocutors, it is important to emphasize that being white in Senegal also presented specific opportunities. For example, at conferences and seminars, my specific foreignness may have facilitated access to research participants because they thought that my connection to USAID/COMFISH could act as an avenue for voicing their concerns to policymakers. In some instances, there was an element of truth to this assumption. The field director of the project asked me for my input on how best to support the work of *femmes transformatrices* in Joal. I also wrote an internal report for the donor community

on the social dynamics of changing fishing economies. The influence I may have appeared to hold was likely exaggerated, however, in the minds of many fisherfolk. Still, the association of my whiteness with the power to make policy decisions, plan projects and allocate resources surely made some people more willing to speak with me. This further substantiates the idea that data collection cannot be a fully transparent process. Like scholars, research participants can also have political agendas that condition how they guide conversations and the information they choose to share.

2.2.4. Explaining my intent and gaining informed consent

The Institutional Review Board (IRB) at Rutgers granted me approval to gain informed consent from research participants orally since it would be insensitive to ask them to sign their names to papers they could not read. I saw this as a culturally appropriate response to the stark reality that most fisherfolk do not have the opportunity to go to formal school in Senegal. However, it put the onus on me to articulate all the information and sentiments contained in the IRB script in a relaxed and timely manner so that participants were a) aware of the merits and dangers of participating in the research as a condition of giving consent and b) not intimidated by the legalese that accompanies an American penchant for litigiousness that an educated informant in the US might dismiss as they simultaneously skim through and sign their name to a written form.

My strategies for accomplishing these two goals started well before a given iteration of the said script. As I will explain in further detail in the section on structured and semi-structured data collection, I built a network of contacts through attending community events such as baptisms, religious ceremonies and fishing meetings that generally gave me the chance to interact with fisherfolk and their kin as an embodied

white American woman before I attempted to enroll them in research encounters. These social and professional milieu gave potential informants the opportunity to learn, among other things, my Senegalese story of origin; I had been coming to the country since 2005 when I spent a summer in Joal, working with female fish processors and learning about the ways they used microcredit. I continued to get my hands dirty, by cleaning smoked fish at Khelkom. And I was not above curtsying to my elders when I greeted them with a bounce to my step as I shook their hands and repeated their last names in honor of those who came before. These cues were not foolproof but they were data of the type of foreigner that I was—simultaneously uprooted and integrated, living an odd existence for a year or so away from my family and friends, but in a place that held social meaning for me.

When it did come time to sit down and explicitly explain my research aims, I would say that I was a student at Rutgers, which was a university not far from New York City. What they would say would help me write my (doctoral) thesis so that one day I could teach Americans about the importance of fishing in Senegal. I won't write down your name, just your ideas, I would emphasize. Many of my informants would interject that they would prefer I use their names so that they would become famous, or at least known and heard, in the US. For the first couple of times that this happened, discussions would ensue about how my university preferred that I not record peoples' names to protect them. This reasoning led to a lot of confusion and fearful body language (i.e., shifting in one's seat, widening of eyes, crossing of arms)- protection from what? What kinds of questions will you be asking in this interview? Soon, I learned to anticipate these kinds of responses by characterizing each person's unique way of doing things as rooted

in their traditions (*ku nekk and ak sa ada*), implying that the American way could sometimes be a bit strange from the Senegalese perspective.

Other points I would cover included encouraging them to feel free to skip over any questions they did not wish to answer; volunteering the information that my research assistants would be writing down what they said on their computers (as research transcripts) in the spirit of full disclosure; and asking them if they would be comfortable if I recorded our conversations. The first point seemed like it went without saying, especially when I was interviewing people who were significantly older than me who were not intimidated by my advanced degree-seeking ambitions. I did not only get the sense but was *told* by Fatoumata, for example, that I was not the first upstart white woman to ask her all about her business and I would certainly not be the last. Moreover, the white lady who came before you brought soft drinks, she added. Besides making me feel cheap, I appreciated the message to not feel too special. Putting the research process in context let me approach my interpersonal interactions with a little more levity and gave me a greater appreciation for the time fisherfolk were spending with me to make sure I got all the details right. In the main, they had not seen tangible improvements come out of previous studies but many people were still open to the idea of exchanging ideas for its own sake.

Finally, before I formally asked for permission to hold the interview, I would give each participant my business card with my contact information in the US and in Senegal, emphasizing that I could answer any questions they might have, then or in the future. I got a few participants who got the wrong impression and asked me out on social occasions but generally, they respected my attempt at establishing a professional

relationship as well as a line of recourse if they had specific concerns. I also joked that I had a committee of advisors (*kilifa yi*) at home who I could put them in touch with who would want to know if I was doing my job badly. Sometimes, this would elicit a laugh. Most times, participants would ask me if we could get on with the interview already.

2.2.5. Structured and semi-structured data collection

2.2.5.1. The example of surveying boat owners

The first major phase of structured data collection was a survey I conducted with boat owners. The goal of the survey exercise was to generate descriptive statistics highlighting the demographic characteristics of boat owners living in Joal; the major modalities of financing fishing operations; the extent to which fishers' wives were involved in the sector and if boat owners gave or sold fish to their female kin. This was meant to explore the hypothesis in the literature that the more indebted a boat owner was, the less likely his wife was to derive benefit from his catch. I also hoped the survey would provide some context to the intra-household relationships I was starting to get a sense of through participant observation.

2.2.5.1.1. Making the field knowable: a sampling strategy

In consultation with my research assistants, I chose the neighborhood as the unit of analysis for the survey because this is how space had been socially produced in Joal; each neighborhood had a delegate or "chief" who represented community matters in town hall meetings and who would help solve community conflicts. Working on this model made gatekeepers clearly identifiable. We would visit the neighborhood chiefs before embarking on fieldwork to ask for permission to work in the area, advice on how to go about the research and for help in identifying a facilitator from the neighborhood who

could accompany us on our initial rounds. When people had questions about the survey, we could mention that we had visited the chief and refer them to him, which in turn, reinforced his administrative authority over a specific, delimited area.

We identified fifteen neighborhoods in the municipality. Based on Sarr (2012) and a review of other gray literature, masters and PhD theses, we identified three broad waves of urbanization in Joal and categorized neighborhoods into one of the following to reflect popular understandings of when they had been established: 1) long-standing neighborhood (pre-1973); 2) medium-standing neighborhood (1973-1990); and 3) newly established neighborhood (1990-2010). Making the field knowable in this way was based on the assumption that processes of urbanization were driven by, and were themselves drivers of, growth and development in the fishing sector. Assuming that the concentration of fishers would be higher in neighborhoods adjacent to the sea where boat owners could more easily survey their wooden boats onshore, we then chose one seaside neighborhood from each category. The third, “newly established” category did not include a neighborhood along the coast, so we chose one located inland between the coast and the Khelkom processing site where fishing nets lining the sandy paths suggested that boat owners were plentiful.

Our field activities had two stages. The first involved going door to door, assessing if a boat owner lived there and formally introducing ourselves to explain that we had come to greet fishermen, boat owners and their wives because we were planning a survey. I would take the initial lead, explaining that I lived in the area, at a nearby neighborhood chief’s house, and that I had come from America to learn about the fishing sector but had had difficulty speaking with fishers to date since they were often resting at

home or at sea. I added that I was a student and hoping to share what I would learn about fisheries and fish production with other Americans. The goals of this initial set of interactions were to spread the word and map out where fishing concessions were located so we could return at a later date.

The second stage involved: 1) a census portion, which took basic information about how many fishers and boat owners lived in each concession mapped in the first stage; and 2) a survey portion, which asked boat owners in every other concession (and then every other boat owner, within the chosen concession) specific questions about their business activities and the level of their families' participation in fish production. In cases where a particular boat owner was unavailable, usually due to work or travel, we would follow-up on two more occasions and if still not able to reach him, we would make a substitution with another boat owner from the area. We made approximately five substitutions in total.

Over the course of three months, we visited 154 concessions, which included 365 households. Through the census portion of the survey, we concluded that these concessions housed a total of 264 pirogue owners and 1,510 fishers. Though impressive, the estimated number of fishers living in visited concessions is likely an underestimate of the mouths that boat owners are responsible for feeding and housing. Particularly for those owning purse seines, boat owners are often obligated to rent multiple houses for their crews. All boat owners participating in the survey portion (n= 93) reported fishing as their main professional activity. Thirty-nine boat owners reported targeting sardinella during at least some point of the calendar year.

2.2.5.1.2. *Working as a team with research assistants*

In each neighborhood, I worked in a team alongside three research assistants. The first, Binta, was in her early twenties, a native Sereer speaker who lived with her grandmother, a long-time resident of Joal who most Joaliens knew by name. The second, Meïssa, was about my age, also a PhD student in Geography, who made frequent trips between the capital and Joal for data collection activities for his thesis on colonial cartography of the region. Together, we spoke the three languages (Wolof, Sereer and French) most widely used in local fishing communities. This meant that we could address concerns that fisherfolk might have in their native tongues. The facilitators identified by the chiefs were also indispensable. In one instance, a respected elder in the Sereer community who was the president of the town's gillnet fisher's association accompanied us. In another, the chief led us around his quarter himself. And in the third case, a young fisher from a well-known fishing family took us around on his days off. It was important to have a familiar face with us as we entered concessions for the first time; they could also address questions and concerns residents might have about the research when Binta, Meïssa and I went home.

2.2.5.1.3. *Inter-generational boundaries*

On our second day of interviewing, Meïssa, Binta, the president of the gillnet association (Elhadj) and I approached the Senegalese equivalent of a front porch. Five men, ranging in age from 55 to 70, seated on a woven mat on the sand, were chatting in the shade of a thatched roof. Elhadj identified one of these white-haired men as our next boat-owning informant. I quickly conferred with Meïssa and Elhadj. Was there somewhere else where we could do the survey, perhaps out of earshot from such an audience? Meïssa paused, acknowledging that the information could be seen as personally sensitive. But Elhadj

intervened, “for me (i.e., in my opinion), it’s really no problem. We all know each other here.” Reassured, we started formally greeting and explaining the aims of the research to the seated fishermen. I took a seat on the far end of the bench. Binta leaned against the cement block wall next to me, as Meïssa crouched down on his knees and started in on the survey questions, “so, is fishing your main economic activity...?”

Assured that the interview was off to a solid start, I then realized that the fisher seated to my left was familiar. Where have we seen each other before, I asked. He said he had seen me at USAID/COMFISH meetings, and we started to discuss the challenges of rolling out a new government initiative that would require fishers to pay for a permit before they could access state-subsidized fuel. As we were chatting, the voices in the background got louder, and I heard Meïssa switch from active questioning to what I will call research messaging.

Meïssa looked down at his clipboard, put it to one side and started to explain that I was doing research for my dissertation and I wanted to know about how fishers and their wives work together. “These white people come here and steal our secrets...,” I glean from the exchange. Under my breath, I asked Binta to quickly fill me in on what I had missed. She informed me that the participant did not want to continue with the survey. Meïssa continued to stay on point. We are doing this survey and once we are done with the research we will submit copies to the fishing ministry so that they can consult it to help them plan better projects for fisherfolk, he said. I stayed quiet, since Meïssa seemed to be handling the situation quite well. He managed to calm the participant and started active questioning again, but not on the marriage issue. I was

reassured of Meïssa's expert interviewing skills, but worried that if this fisher did not consent to our survey, would he tell his neighbors not to participate as well?

The survey ended. As we got up, the fisher who had chatted to me about the fuel issue gestured to the survey respondent. "Him, he's greedy" (*moom, begg na xalis torop*), he said. To me, this seemed like an effort to apologize on his friend's behalf. At the very least, it served as a conciliatory gesture explaining the survey participant's behavior. By suggesting that it was the respondent's prerogative to obtain money for his participation, his friend seemed to suggest that I should not take his allegations of me being an extractive student too seriously. I, on the other hand, felt like the respondent had voiced an important concern. I told the friend so loud enough so the whole group could hear. I shook everyone's hands again as I thanked them. They thanked me, and we moved on to the next concession.

As we walked away, I consulted with Meïssa. He reiterated that the respondent was concerned about fly-by-night researchers and consultants stealing his secrets. I commented that this was completely understandable. Elhadj, joining us from behind, shared his take on the situation, explaining the participant was an elder (*mag*) who considered it inappropriate for a younger person such as Meïssa to ask him about his marital status, or by extension, the terms of his marriage. Elhadj added that he was nonplussed about such a line of questioning. As an older man himself, he found it fitting for research on fishing economies to look at questions concerning the family, since intra-household production had been so historically important.

Later on, when Meïssa and I were seated alone on a wooden bench outside a corner shop, I asked him what questions seemed to trigger the spoken discomfort. He said

the participant started to question the survey's aims just after Meïssa asked if he was, in fact, a married man. In the end, this participant was the only one to consent to participating in the survey but not to answer a question (we also had one outright refusal)—in this case, the fill-in tables on his wives' birthplaces, and if he gave and/or sold fish to them.

After this encounter, we adapted our strategy by exploring how working together as a group could paradoxically create rather than inhibit privacy. Meïssa encouraged me to take a more active role in speaking to the fishers around the person being interviewed. I, in turn, encouraged Binta to conduct her household portion of the survey with other household members present so as to shift the spotlight, or perhaps more accurately, create multiple spotlights in any given household. This meant we would spatially spread out in a concession to create multiple nodes of conversation so that it would be more difficult for someone to eavesdrop in on the conversation. We reasoned that this would create an atmosphere where a respondent could discretely answer a question he deemed sensitive, or request to move onto the next question without drawing too much attention. We also made a more concerted effort to detail the contents of the survey for informants. This was a more direct, and effective, approach. Preparing people for the more culturally sensitive questions about the exchange of fish in the context of their marriages allowed them to consider how much they were willing to share with us before the actual question was posed.

2.2.5.2. *Other activities*

2.2.5.2.1. *Interviews*

The second major phase of targeted data collection included interviews I conducted with

two major groups of actors engaged in the fishing sector: elite “experts” and fisherfolk. Interviews were semi-structured in format. I would come prepared with a list of topics and specific issues to cover, but present them in a way that would allow informants to shape the direction of the conversation by bringing attention to aspects of the dynamics under consideration that I had previously overlooked. Preparing an interview schedule using back translation of detailed questions in Wolof made sense given my language abilities. But, following Dunn (2010), I used the end product more as a guide, meaning I rephrased questions and changed the order of topics as it seemed appropriate.

Economic geographers write about the challenge of gaining access to elites, for example managers of factories in Jamaica (Mullings 1999), as about establishing trust or, in other words, convincing them of one’s unbiased stance and openness to the exchange of ideas. I also found that convincing so-called experts such as fishing ministry officials, export factory agents and development workers to participate in interviews in Dakar was a challenge at the beginning of the interview. Framing my research goals in a way that was non-threatening to these actors’ professional interests became a somewhat effective strategy. Emphasizing my professional credentials as a Fulbright, doctoral candidate and association with USAID/COMFISH was currency in this sort of exchange that established my membership in a specific network active in the circulation of expert knowledge. The upside was that once a given elite granted me and sat for an interview, I would ask for further suggestions about whom to interview; starting an interview after having been introduced by a fellow insider greatly facilitated access, a strategy that Bernard (2011) argues is particularly effective for gaining access to tightly knit groups of elites. Building on my initial group of contacts who I had met during reconnaissance

research and snowballing to recruit other expert informants thus proved a fruitful strategy. There was only one directly relevant development agency that declined an interview despite multiple phone calls and written requests. Incidentally, this was also the one agency where I had no introduction from an intermediary.

In contrast, the challenge of enrolling fisherfolk interviewees' support and participation in ways that revealed rich and revealing information tended to manifest itself in the course of the interviews as opposed to at the outset. For example, instead of expressing unease at the moment of gaining informed consent, fisherfolk tended to articulate these emotions by self-editing and starting to respond to questions with terse answers, including yes/no or other short responses such as "well, that's the way it is." I found it more difficult to address these expressions of distrust because they were unsaid. Asking probing questions (e.g., "could you tell me more about that?" or "can you think of an example where that would not be the case?") helped re-direct the conversation in some instances. In others, it would become clear that participation in the interview represented a nominal willingness to engage (perhaps to not seem impolite) but not in ways that would too illuminating.

Recruiting informants in Joal required a variety of strategies that depended on logistics and the goals of a given set of interviews. Another processual consideration was where these interviews were held since location can shape the power relations between the researcher and informant in ways that affect the data collected (see Elwood and Martin 2000). For instance, holding interviews in my USAID/COMFISH office in Joal may have created a situation in which I was construed as an expert (or worse, as an employee of USAID) whereas the goal of this set of interviews was to draw on the

expertise of research participants. As a result of these considerations, I tried to hold interviews in locations that were convenient to informants such as their own workplaces, homes or public meeting spaces close to the former.

To start semi-structured data collection, I built on connections I made through attending fishing community events and religious ceremonies such as baptisms to identify a few fishing elders who doubled as gatekeepers to key professional groupings. I would schedule interviews and then ask them to recommend other potential informants relevant to the study's focus on sardinella. This approach worked well because it built on elders' roles as representatives of the community's interests and as such the appropriate points of contact to introduce me to the current issues. The purpose of this set of interviews was to assess the role of family ties in securing access to fish in times past and to better understand how the sector then differed from how it operates today.

The previously discussed survey with boat owners also created opportunities for me to widen my network of contacts, including with fishers' wives. As the team and I worked our way through the selected neighborhoods, we would express interest in coming back to speak with them and certain women even insisted that we come back to visit so they could teach us about their work. We kept a list of such eager participants, which included wives working with sardinella as well as some specializing in other species.

We ended up employing a three-pronged approach to recruiting fishers' wives who were actively engaged in the fishing economy. First, we would visit the survey respondents who were involved in the sardinella production system to thank them for their previous input and to gauge their wives' willingness to sit for further interviews.

Many times, this would involve a series of informal interactions in common areas before or after speaking with boat owners directly. Husbands did not need to expressly give their consent for their wives to participate. But using husbands as an entry point for speaking with female fisherfolk did create a situation where the research design was defining women in relation to men. Sensitivity to this dynamic warranted undertaking additional approaches to recruiting female fisherfolk. Thus, secondly, I would ask fisherfolk who I had come to know through participant observation to recruit informants who did not participate in the survey. Third, at the end of interviews, I would ask informants to recommend further people with whom I could speak to further explore research aims. Speaking with boat owners and their wives on separate occasions is one strategy of doing household research that Valentine (1999) has suggested as a way to avoid a host of ethical and practical problems that can arise when couples are interviewed together—for example, when a dominant partner tells an “official” account of how their relationship works and the other expresses their feelings of disagreement only through body language.

The content of interviews with women assessed: 1) the extent and role of their involvement in the industry; 2) if appropriate, their strategies for securing adequate supplies of fish for their processing and/or vending businesses; and 3) how their approaches might be different from those they (or their older relatives) used in the past. In other words, this set of interviews generated data that spoke to the dynamics of the conjugal contract, how it had evolved and was evolving.

The remaining groups of interviews were with boat owners, wholesalers and *femmes transformatrices* deemed to be key informants who could provide information to cross-check and triangulate preliminary findings from the survey and other interviews.

The goals of these research encounters were to probe the dynamics of the supply relationships under question as well as to follow-up on themes that were debated in current events such as the implantation of a fishmeal processing factory in Joal.

Table 2.1: Semi-structured interviews

Actors	Number of interviews	Location
Fishing elders	17	Public meeting and work spaces
Fishing ministry officials	7	Ministry offices
Export factory agents	5	Factory offices
Development workers	7	Ministry and development agency offices
Fishers' wives	44	Homes
Boat owners	14	Homes and public meeting spaces
Wholesalers	9	Homes and public meeting spaces
Femmes transformatrices	15	Processing sites
Community leaders involved in the fishmeal processing factory controversy	7	Public meeting spaces and processing sites
Total:	125	

2.2.5.2.2. *Focus groups*

The goals of focus groups with fishers, as opposed to boat owners, was to better understand how youth became fishermen through their interactions with the sea. Youth in this instance was interpreted broadly, reflecting the youth association's loose criteria: the president of this professional grouping, a well-known activist often invited to speak at nationally broadcast events, was approximately forty-five years old. This said, I wanted to speak with younger fishers who acted as laborers rather than captains or boat owners in order to get a better sense of how they saw fish production as a part of their work-life

trajectories, and how these were intertwined with their personal goals. This approach, of using the focus group method to follow-up on findings, is common in human geography as it allows researchers to put quantitative data, for example, in context and explore its social significance (Cameron 2010). I was intrigued by the finding from survey data that over 90% (n= 85) of boat owners were married, and was interested if ownership and marriage were rites of passage into social adulthood that tended to coincide.

There are a number of ways to think about the purpose of focus groups that have important implications for the recruitment of subjects, content of discussions and the analysis of transcripts. There is no shortage of studies on the focus group as method- as Bedford and Burgess (2001) argue, it is perhaps the most well-documented social-scientific method as it has been a crucial technique in market research and political campaigns for decades. When conducting a focus group for such purposes, there is a general inclination for “ensur(ing) homogeneity within the group and heterogeneity between them” (ibid., 124). In a sense, research for this dissertation followed this logic since I recruited subjects based on crew.³⁶ Recruiting by crew provided two ideal groups of fishers (though there were some exceptions): 1) those who hailed from long-standing fishing families and worked on boats equipped with encircling gillnets; and 2) new entrants to the sector who worked on purse seiners. Newer recruits on purse seine craft, for example, tended to be new migrants from inland agricultural areas who did not know how to swim or learned on the job whereas old hands on gillnet boats tended to be from the Sine-Saloum region where they had grown up swimming in the river delta. Much like

³⁶ Building on my network of contacts with fishers whom I had met through the survey exercise, I would explain the focus of the group discussion, set a date, time and setting (usually in a home or community gathering place on an adjacent beach) with a given fisher, and ask him to invite 4-7 other members of his crew.

running a classroom discussion, I saw my role as keeping the members on topic, asking probing questions to encourage participants to consider different angles of an issue, managing participation by encouraging quiet members to share and re-directing the conversation away from those who liked to dominate.

The second goal of these focus groups fits more in line with studies specific to human geography such as those highlighted by Kneale (2001) who distinguishes between traditional focus groups and “in-depth” groups, which have the potential to shift power away from the researcher to the researched. Bosco and Herman (2010) build on this notion of in-depth groups by conceptualizing focus groups as collaborative research performances that are a) fluid because they blur the boundaries between researchers and the researched; and b) hybrid because they encourage a participatory construction of knowledge through social discourse. For example, in their study on how land, labor and capital are allocated in Java, Indonesia, Goss and Leinbach (1996, 116-7) argue, “the main advantage of focus group discussions is that both the researcher and the research subjects may simultaneously obtain insights and understanding of particular social situations *during* the process of research” (emphasis in original, as cited by Cameron 2005, 120). Focus groups, in socially constructing knowledge about a given topic and fostering engagement among participants’ ideas, can then play an empowering role as event. The focus group setting facilitated this type of dialogue by taking a certain claim to expertise away from me and making participants experts of their own experiences.

2.2.5.2.3. *Document collection*

To collect reports, scholarly articles and masters and doctoral theses relevant to this dissertation, I visited the following research institutes, resource centers and university

libraries in Dakar: Centre de Recherche Océanographique de Thiaroye (CRODT); Direction des Industries de Transformation de la Pêche (DITP); Direction de la Pêche Maritime (DPM); Ecole Nationale de l'Economie Appliquée (ENEA); Institut Universitaire de la Pêche et de l'Aquaculture (IUPA); and Université de Cheikh Anta Diop (UCAD). To focus my search, I used certain keywords that referred to places important to the sardinella economy (Hann; Joal; Kayar; Kafoutine; Mbour; Ouakam; Thiaroye; Ziguinchor; Sénégal) and/or phrases that were specific to the fishing sector in French (*produits halieutiques; femmes transformatrices; transformation artisanale; pêche; poisson; sardinelle*) and Wolof (*jën; yaboy; lakkkatu jën; guedjkat; keccax*). I also scoured the websites of the Institut de Recherche pour le Développement (IRD), Greenpeace, WWF, the Sub-regional Fisheries Commission (SRFC); the Food and Agriculture Organization of the United Nations (FAO) and UN Women for supplemental information, using the same keywords in addition to their English translations (fisheries products; female processors; artisanal processing; small-scale processing; fishing; fish; sardinella; Senegal). The resulting collection was complemented by project documents shared by interview participants engaged in initiatives funded by the FAO, the Japanese Agency for International Cooperation (JICA), the Italian Program for Food Security (PISA) and the United States Agency for International Development (USAID), as well as journalistic pieces gleaned from Senegalese daily and weekly newspapers.

In total, I completed 93 highly structured interviews with boat owners, 125 semi-structured interviews with various actors, 5 focus groups and collected 96 documents (not including newspaper articles). These documents covered three main thematic areas: 1) the history of fishing economies, with an emphasis on processing and preservation; 2) project

documents, including internal reports on management, conservation and development initiatives as well as external reports making policy recommendations and bringing attention to, for example, illegal fishing in the region; and 3) government reports, generally including catch statistics, export geographies and descriptive information regarding the size of artisanal and industrial fleets. Together, these primary and secondary data built on the 15 informational interviews I had conducted with leaders of national associations of fisherfolk as part of reconnaissance research in summer 2011. The question then became how to make sense of this qualitative and quantitative data in ways that spoke to the research questions driving the study.

2.2.5.2.4. *Data analysis: transcription, coding and the challenges of translation*

A few exceptions aside, interviews were digitally recorded and my research assistants completed transcriptions. They transcribed recordings were preserved wholly in their original language, meaning if the interview was conducted in a mix of French and Wolof then the transcriptions followed accordingly. Keeping records in this way facilitated analyzing the data in the speakers' own words and my practice of only translating into English when I was in the process of writing up and inserting a direct quotation. This follows the example of Hörschelmann (2002) who found it an effective strategy to preserve the meanings expressed and style of speech employed by informants. When interviews were mostly in Wolof and using technical vocabulary that I was unfamiliar with, I had my research assistants preserve the Wolof in addition to translating it into French. This meant that now that I am back in the US and do not have as easy access to native Wolof speakers, I can be confident of my interpretation of the data. Taking such a

“foreignizing” (see Smith 2010, 163) approach to translation deepens the data I collected and paves the way for me to make informants’ word choices and translation by me a potential subject for future analysis itself.

With the help of *MAXQDA* software, I coded field notes and interview transcripts for: current and historical understandings of the conjugal contract; how gender was reiterated and deployed in Senegalese coastal communities; and the class and age dynamics present in fisherfolk’s abilities to benefit from fish. For instance, I dissected my compilation of daily fieldnotes and interview transcripts for instances where business actors invoked gender norms to gain and maintain access, and used these insights to reflect on how the underlying contract is changing and articulated. One challenge in this process involved the fact that there is no one way of spelling Wolof so it is difficult to search for keywords that generate a reliable return. This meant that I had to keep a list of the various ways my research assistants spelled keywords and phrases so that I could make a good faith effort to review all instances in which they were invoked. Having combined an extended period of participant observation with semi-structured interviews also allowed me to cross-reference what people said they did with what they actually did, providing additional depth and richness to research findings. I compiled descriptive statistics from the survey portion of the research with the help of Microsoft excel software.

Before leaving the field, I also prepared an unpublished report of major research findings, “The Potential Impacts of Fishmeal Factories on Female Fish Processors’ Ability to Access Fish in Joal-Fadiouth,” for circulation among pertinent governmental and donor agencies. As a rule, most reports coming from organizations such as

USAID/COMFISH, WWF and JICA are published in French and English. I wrote the report in English, and explored the possibility of having it professionally translated into French, since my written abilities in the language are not as fluent as my speaking and listening. This proved to be a very expensive undertaking that I had not anticipated in my grant applications. Going forward, I would make a point of making this a part of proposed research budgets to widen the pool of potential readership for such written outputs.

Luckily, my host institution, USAID/COMFISH, asked me to present a summary of the report in French and Wolof at a workshop in Joal to which I invited key informants and my research assistants. The report/presentation did not detail the research's contributions to theoretical debates. Rather, it outlined some of the major conclusions, and was geared towards eliciting feedback on the research process as well as the findings. One of my hopes was that this would also help place the case of Joal in regional context, since fisherfolk from Mbour and Fatick were also present at the workshop.

In the question and answer session, one vocal boat owner from Mbour talked about *keccax* processing and lamented how female fish processors (*femmes transformatrices*) were putting pressure on boat owners to sell fish to them at discounted prices. Another boat owner from Joal voiced a similar concern. The discussion turned quite heated. I encouraged the *femmes transformatrices* whom I had invited to weigh in on the discussion. One of the women in this small group, Khadi, spoke up, murmuring that I had already said all there was to say. The women's choice to stay quiet was a loss for the richness of the discussion, I thought. But I turned back to the larger group—the rest of whom were men, except for my research assistant, Binta and I—encouraging

others to speak. This was another example of a moment when I was assuming the position of a honorary male. I was speaking publicly in a professional capacity and guiding a discussion largely among men. This was a role my Senegalese female age mates would not have been likely asked to play.

The discussion continued, with me positioning myself as devil's advocate and quasi-spokesperson for the *femmes transformatrices* whom I had worked with since I was an undergraduate. Another boat owner from Fatick took the microphone and started to launch into a discussion of fuel prices and how difficult it was to make ends meet. Then, one of the field staff from USAID/COMFISH prematurely (in my opinion) cut off the question and answer session to conclude the workshop. At the time, I was disappointed that a lengthier exchange was not possible in the time allocated for feedback.

In retrospect, I integrated a few lessons. First, I had written a report that was very one-sided. This could be understood as stemming from my feminist politics, a decision that potentially had real implications. In my report, I traced the changing gender division of labor in Joal as the basis for predicting the impacts of a fishmeal processing factory opening, and concentrated on its possible consequences for women. In the question and answer session, boat owners were understandably determined to get their points across in rebuttal. As a result, in writing up this dissertation, I have taken a more balanced approach, highlighting a wider array of actors' livelihood struggles in the face of political ecological change. This shows the salience of post-colonial critiques of Western knowledge production, and how important it is to keep them in the forefront of research and writing. The second lesson was that trying to simultaneously speak to highly educated field staff, senior managers and largely illiterate fisherfolk is a major challenge.

It would have made more sense to organize a separate workshop in French for development practitioners in addition to the one primarily aimed at communicating my results in Wolof to fisherfolk. By way of illustration, when writing the presentation, I wanted to provide enough statistical data to substantiate my findings in Joal. But in the actual course of presenting, it became clear that I needed to switch to a much more narrative-based approach to make the contours of my argument very clear. Moreover, my slides showed a lot of tables and graphs. In retrospect, a more selective depiction of statistics combined with photos would have been a more effective means of communication to the two audiences. Neither did I anticipate the presence of a senior manager from JICA who did not speak Wolof or French. Translating for him was not my responsibility, but I made sure to greet him in English and follow-up afterwards by sending him a copy of the report.

These reservations aside, this public presentation was an important step in making findings available to research participants who are not able to access online repositories or future texts deposited in the appropriate resource centers based in Dakar. Checking findings with participant communities was also an important way of ensuring rigor in research design and enhancing the credibility of findings (Bradshaw and Stratford 2010, 77). Ironically, in naïvely focusing on women, I sparked a controversial discussion that demonstrated the import of my findings to fisherfolk as well as the extent to which discordant parties were divided along gender (and, as we will see, class and age) lines.

2.3. Conclusion

In sum, my approach to the field and the data I collected cannot be separated from my positionality as a white foreign feminist woman from the US who has been trained in the Western academy. I am entangled in a historically fraught set of geopolitics and colonization of scholarly thought and bodies that has justified, and continues to guide, outside interventions in the Global South. My co-production of data with diverse informants was based on the interaction of my own and their subject positions, with important implications for findings and analysis.

My host institution, for example, facilitated many professional connections by introducing me to key community leaders at key meetings and events. USAID/COMFISH also helped to establish my credibility as a researcher in interviews with “elites” in other settings. But it may have posed some problems that were not explicitly articulated. When compounded with the suspicion that can arise for research participants when interacting with someone like me who embodies whiteness, it is understandable that some fisherfolk were hesitant to speak freely about their livelihood strategies and socioeconomic relationships with their kin and neighbors. In some ways then, access to my informants was often conditional on my skill in forging bonds through participant observation or asserting other aspects of my social identity at specific moments in time. This is not to say that my social position was not useful in some instances. Sometimes it endowed me with an honorary male status or the privilege that comes with being seen as an expert.

Performing women’s work in the form of casual labor was arguably the most effective strategy for establishing myself as someone who was committed to understanding fishing economies. Working as a day laborer helped me establish rapport with some of the most vulnerable workers in the *keccax* production system. This

ultimately helped me to break down the category of “women” beyond the *femme transformatrice* framing I had become accustomed to using as shorthand for fisherfolk gendered as female. Using Wolof as the lingua franca among these workers hailing from different ethnic groups also helped members of the somewhat amorphous workgroup build a sense of solidarity through time spent and conversation had together. My participation therein stood in contrast to my unsuccessful attempts to ingratiate myself with Niominka boat owners whose language I did not speak. These workgroups were largely organized by ethnic group and so my inability to converse in Sereer solidly placed me doubly as an outsider. I was not willing to go out on motorized pirogues for fishing trips, and fishers were not forthcoming in helping me to repair nets and gear, so I could not masculinize myself through work in this instance. I was unable to conjure the status of honorary male myself.

Another limitation of the research revolves around a delineation that Buggenhagen (2003: 142) underscored in her dissertation on the circulation of value and domesticity in Senegal. In Wolof society, husbands are referred to as “heads of the household” (*borom kër*) whereas their wives are referred to as “heads of the bedroom” (*borom negg*). This distinction hints at one source of married women’s power. Senegalese women spend significant sums in buying goods that are considered central to the process of erotic seduction (i.e., incense, perfume, *petits pagnes*), as they seek to please their marital partners. In a highly polygynous context (outside of Dakar, see Foley and Drame 2013), this can be understood as part of wives’ strategies to gain their husbands’ favor vis-à-vis their co-wives and to prevent their husbands from taking on additional wives (see also Nymonjoh 2005: 308). Theoretically in charge of this most intimate sphere of

the household, Senegalese women's sexuality is a tool they use to influence their husbands' decisions and behavior. These are important dynamics whose analysis extends beyond the scope of this dissertation. It would not be unreasonable to conclude that the negotiation of fish prices and settling of intra-household debts has been one of the areas fisher's wives seek to address in the rare moments they have alone with their husbands. But I do not have any data providing insight into this particular aspect of creative conjugality. I chose not to pursue it as a line of direct questioning. And no research participant explicitly brought it up over the course of fieldwork, perhaps in keeping with the cultural practice of discretion, or *sutura*. The absence of such a discussion is revealing. Perhaps instances of fisher's wives' discomfort during the course of interviews (e.g., very brief answers to open-ended questions, shifting in seats when prompted to elaborate) speaks to the salience of these issues to the questions I was asking and an uncertainty of how to communicate these specific dynamics. This is conjecture, but it is also to make the point that social processes are complex and not wholly transparent. The relationship between sexuality and power has been highlighted in East and Southern Africa through focus on the fish-for-sex phenomenon. A fuller analysis of Senegalese fishing economies might take into account these dynamics within the context of marital partnerships.

3. A short history of artisanal fish production and processing in Senegal

This chapter examines how economic restructuring of the sardinella production system has affected and been affected by women's participation. It traces how fishing and preservation methods were first used to produce foodstuffs for household consumption and then how European contact encouraged commercialization in colonial settlements. It identifies two major technological innovations in the 20th Century that also contributed to the commodification of fisheries products: motorization in the early 1950s and the introduction of the purse seine in the early 1970s. The advent of these new technologies fed *keccax* production, which preserved small pelagic fish such as sardinella which had previously only been used as bait.

Today, it would be difficult to overstate the importance of *keccax* in Senegalese foodways. Known for its smoky taste and traditionally used as a condiment, Mbengue, Cormier-Salem and Gueye (2009) argue that *keccax* has become a primary source of protein in ordinary Senegalese peoples' dining bowls. This shift is located in broad processes of political ecological change that have made higher value fish less accessible in domestic markets due to dwindling stocks as well as cosmopolitan elites' voracious appetites for certain kinds of seafood (Thiao 2012).

With these contemporary dynamics in mind but on the back burner, I identify pivotal moments in the transformation of the *keccax* commodity chain's social and economic relations of production, reading them from a gendered perspective. I argue that these histories not only illustrate how structural change works in and through gender as a central organizing principle of urban and rural production systems in the Global South. They also underscore the contingencies of change and, in so doing, pinpoint the moments

where things could have been otherwise. Put another way, women's work and economic change in Senegal's fishing sector have been mutually constituted in ways that have important consequences for theorizing the production of both meanings and money.

3.1. The prism of European contact

Seafaring has played important economic and political roles in West Africa since at least the 15th century (Chauveau 1986). *Pirogues*, made from a single tree trunk, facilitated the transportation of merchants and their wares who ventured out to meet anchored Dutch ships off the Gold Coast, covered long distances along the Upper Niger to deliver salt to the disparate provinces of the Songhay empire, and also made possible the island kingdom of Lagos' extraction of agricultural tributes from land-based peoples (Smith 1970). Perhaps the French re-inscription of the Wolof *sunu gaal* (our boat) to "Senegal" is also a reflection of the economic and political roles coastal and riparian communities played in the pre-colonial era.

Documentation of fish trade from the 15th to the 19th Centuries is scant but Chaboud and Kéb  (1989) suggest that the first forms of exchange involved dried shellfish from the Sine-Saloum delta as well as dried fish from *La Petite C te* and *Cap Vert* regions. The earliest methods were to cut fisheries foodstuffs open and dry them in the sun (Faussey 1984).

Fishing and farming were largely complementary activities during the pre-colonial period (Yenot-Faysol 2012). With the exception of the Guet-Ndariens of Saint-Louis who depended on fishing and engaged in barter for other key staples, major fishing groups such as the Lebu and Niominka were historically self-sufficient in food

production, combining fishing with vegetable gardening and rice cultivation (Chaboud and Kébé 1986, see also Nguyen 1967). When fish was plentiful, it was preserved so that it could be eaten during the off-season when there was farming and harvesting work to be done. When I asked Alhassane, an elderly, Niominka fisherman residing in Joal if his mother, father and/or grandparents worked together in fish production when he was growing up in the delta, he recalled:

Like my grandfather, my father was born in the sea. He was brought up and grew older in it. That is where he taught me (how to fish). Every time my father went to sea and came back, he would bring my mother fish. At that time, my mother would sell fish in the countryside but if there was millet, she would sell that, leaving her fish-related business (aside) for a while. You see, our ethnic group, we *know* farming and the sea. During the dry season, we used to go fishing. In the months of January, February, March, April, May until June, we would go out to sea. When June came around, we would go home, and farm until the work was done. Then when December came around again, we would start the process over again. There weren't a lot of businesspeople (so) my mother was kept busy selling (her goods).

As this quote illustrates, farming and fishing were highly seasonal activities with gender-differentiated roles that were based on the household unit. And fisheries foodstuffs were sold on regional markets within Senegal as supplementary income. Nguyen Van-Chi Bonnardel (1980, 271) expands this understanding of the sector by highlighting how pirogue fishing was historically based on kinship ties, more broadly defined. As she observed:

Traditionally, the tasks involved in fishing were organized within the family residential unit: ten to fifteen people, on average, in coastal areas. The crew of a pirogue was made up of brothers, sons, and nephews old enough to work at sea. The father of the family, even if he was older (fishers, around the age of 50, retire and delegate command of the family boat to his eldest son), reserved ownership rights of the boat, which was ultimately a community asset to be passed down through inheritance.

This concept of a family boat as a community asset helps paint the picture of intra-household production where men fished and women processed and marketed fish as secondary activities to farming, a recurrent theme in the literature and interview material that I will further highlight below. This echoes the well-documented primacy of the household in rural production systems in Africa as an institution organizing gendered divisions of labor, access rights and income distribution. The important point here is that though much of this scholarship concentrates on what is referred to in the West as the “family farm” (Cairns et al. 2015), there are parallels with the relatively under-studied fishing economy where social hierarchies based on age, gender and kinship position condition one’s role in productive activities and claims to the fruits of one’s own and others’ labor.

Later, in what became French West Africa, market trade in fresh³⁷ fish developed to provision colonial settlements that took root in the four communes of Dakar, Rufisque, Gorée and Saint-Louis. As the Frenchman Gruvel (1908, 97-100) observed at the beginning of the 20th Century:

In Dakar and Rufisque, as well as in the surrounding areas, fishermen go to sea for a good part of the night and return in the early morning. The women share the fish and take it fresh to market where it is sold to the Europeans and natives who are its main consumers...When the fish is not sold the same day it is caught, it is brought back (to market) the next day in its decomposed state. The rotting fish is mixed in with the freshly caught ones since the women who sell it dread the visiting inspector and so hide the damaged merchandise below what is fresh.

This report, along with another authored by Gruvel and Bouyat (1906), marked the beginning of external interventions in the sector and so set the baseline for aspirational change. In this vision, women market traders were devious, adopting practices that placed

³⁷ See Freidberg (2009) for a social history of the concept of freshness and how our understandings of it cannot be separated from preservation technologies.

consumer health at risk. It was only the threat of (French) visiting inspectors whose job it was to uphold certain norms that made traders take measures to make their merchandise appear fresh. Here, questionable product quality was not framed as a problem related to a lack of access to preservation technology but as one attributable to undesirable character traits. Of course, coding fishmongers' work as dirty is not singular to the studied case but part of a well-documented pattern that tends to devalue women's work by associating it with waste in contexts as diverse as contemporary Dakar, the Mexico-US borderlands and mainland China (Fredericks 2012, Wright 2006). This French colonist then aptly provides us with an example of a particular machination of patriarchy in the gilded age of empire.

Another one of Gruvel's major observations was that the production chain was neatly divided into gendered tasks where men fished and women took the catch to market. Yet the division of tasks could be more efficient. In his own words:

We observed that as soon as their pirogues are in a safe place on shore, fishers give the fish to the women and don't worry about it anymore so to speak. They don't give it another thought, until the next departure, except to relax, chat in their huts or laze around in the sun or to only reluctantly engage in chopping, salting or drying the fish. First of all, nothing prevents training women so they could more easily salt and dry fish. By the same token, men could focus their energy on chopping, an operation that requires a certain muscular force that the majority of women would be incapable of exerting (Gruvel 1908, 189).

We can hear the projected superiority of the author, bolstered by descriptions of fishermen's laziness. Men hardly helped preserve fish, presumably the domain of women (and even the women could use some more training). This arrangement was not gender-appropriate according to the European view, however, since men were physically better suited to performing manual labor. This ignored the historical importance of female

farming systems in West Africa (cf. Boserup 1970). It also coded certain tasks as men's work though it had hereto been women's by introducing a number of "shoulds" into the conversation. Besides being naïve, Gruvel's observations were deeply entangled in the geopolitical moment. His assessment of fishing, fishmongering and processing practices was that they were chaotic and unhygienic, providing a strong rationale for intervention in line with French colonists' professed civilizing mission (*mission civilisatrice*).

Another motivation for developing the fishing sector in a European image lay in budding business opportunities. By the mid 20th Century, European investors had constructed at least 25 processing units along the Senegalese coastline that depended on pirogue fishing for inputs. These operations produced salted and dried fish (*sali*), which was exported throughout the West African region, as well as canned fish and shark liver oil, which was sold to the metropole (Chaboud and Kébé 1989, 127). The transmission of technical knowledge, including fermentation methods, was introduced and then adapted by locals to transform fish that was not fresh enough to be sold in consumer markets into *guedj*,³⁸ which subsequently became a key condiment in the Senegalese diet used to add an umami-like flavor to dishes of rice, fish and/or meat (Faussey 1984).³⁹

Demand for fish destined for direct consumption and larger-scale processing expanded market opportunities for fishermen, contributing to enhanced fishing effort. Whereas before they had only provisioned their households and local markets constrained by a lack of transportation and refrigeration infrastructure, now fishers had the option of engaging in supply contracts with export operations or selling to cooperatives that had

³⁸ *Guedj* is fish (*caranx carangus*) that is cleaned, cut open and fermented in vats of salt water before being dried in the sun. It is usually sold in small portions because of its subsequently pungent flavor. Only a small bit is needed to add depth of flavor to Senegalese dishes.

³⁹ See also Durand (1981).

been set up by the colonial administration. At first, many fishermen aligned themselves with the export companies, which would provide them with subsidies to build pirogues and buy gear (e.g., set gill nets, encircling gill nets) (Chauveau and Samb 1989). Yet what the investors did not foresee was the simultaneous expansion of urban markets, fuelled by the increasing importance of a monetized economy based on the production and trade of groundnuts (Chauveau 1985). The assumption had been that providing new fishing and production techniques would increase production for the metropole's needs but this ignored the capacity of fisherfolk to adapt these technologies to changing market conditions, and to their benefit (Chauveau and Samb 1989).

In 1948, at the *Conférence de la Pêche Maritime* in Dakar, the colonial administration interpreted the export processing units' problem of attaining steady supplies as evidence of fishermen's primitive nature and inability to adopt "modern" techniques (rather than one of increasing competition with local markets) (ibid.). The priority was then to increase overall production. This marked a turning point in colonial policy that ushered in concerted efforts to motorize small-scale fishing craft and to subsidize other key inputs such as fuel, which fisheries experts point to as the catalyst that sped up the unfolding expansion, profitability and commercialization of the sector (e.g., UNEP 2002). If the authorities could not convince fishers to use European fishing craft, they could at least modernize the intractable pirogue.

3.2. 1950s-1960s: Mobility, markets and commodification

The fisheries administration first introduced removable, outboard motors in Saint-Louis in 1953 (Nguyen Van-Chi Bonnardel 1980). Though it was meant to increase production for European export companies, this step facilitated fishers' movements within Senegal

and the region (Chauveau and Samb 1989) by allowing them to follow fish movements and seek out markets that offered the best prices for their products. This led to an extraordinary increase in landings- they quadrupled from 45,000 tons in 1957 to 210,000 tons in 1977 (Nguyen Van-Chi Bonnardel 1980, 264). This initiative had prompted fishers to invest capital and then facilitated the accumulation of gains so that, among other things, they could pay back debts to the cooperatives that had distributed the sale of duty-free motors in the first place (Chaboud 2000, 112). Other evidence of capital accumulation was the growing size of boats. In the early 1960s, the average pirogue was 6-12 meters in size. By the late 1970s, it was 12-16 meters in length, effectively doubling its carrying capacity in weight (Arnoux 1961; Seck 1980).

These changes had important implications for the social and economic organization of production. As fishing became more viable as a commercial activity, men engaged less in agriculture, leaving these tasks to women and migrant labor from inland areas. This allowed them to concentrate on fishing as a year-round activity (Nguyen Van-Chi Bonnardel 1980, 283). In contrast to the place-based family boat model that had facilitated intra-household cooperation by giving proceeds to the patriarch who managed them on the part of the kinship group, embarking on fishing expeditions allowed younger fishers to make money, keep it for their own accounts and invest it as they saw fit (*ibid.*). This pattern, of fishing becoming an avenue for upward economic mobility, resonates today as in the case of boys and young men migrating to fishing destinations such as The Gambia for the fishing season and only coming home for a few months each year, effectively denying their fathers a source of heretofore cheap, reliable labor for farming (see Foley 2009, 49-50). This strategy contributed to the expansion of the sector since it

allowed young fishers to realize their career ambitions of buying boats of their own (see chapter 4 for more on this theme).

Enhanced mobility at sea was mirrored by that on land. Improved roads and transportation infrastructure in the wake of independence further contributed to the development of pirogue fishing (Nguyen Van-Chi Bonnardel 1980), arguably by widening the scope of markets for fresh fish. In their description of how road construction connecting Saint-Louis and Dakar in 1960 decreased the production of *sali* in European processing units, Chaboud and Kéb  (1989, 128) state, “the decline of (fish) processing in Saint-Louis is not complete though. The production of *guedj*, practiced by fishers’ wives in domestic groups and destined for the Senegalese market, has not felt the same effects from the commercialization of fresh fish.” This observation highlights three important points. First, if contemporary practice is any indication, *guedj* is made from noticeably decomposing fish. This means that women adapted European fermentation methods to make creative use of what Gruvel (1908) would have categorized as the fish that sneaky fishmongers would try to pass off as fresh. *Guedj* then represents a hybrid fisheries commodity fusing insider and outsider knowledge to address the long-standing problem of what to do with a highly perishable foodstuff in a tropical climate with limited access to preservation technologies. Second, these were not just any women. They were fishers’ wives, which leads me to my third point. This distinct group of women were able to maintain access to supplies of fish even when their husbands were engaged in *bona fide* contracts with the very same European processing units that were seeing their supplies dwindle as they were re-directed to consumers in Dakar. Whether fishers a) gave their wives a portion of their catch upfront; b) engaged their wives as

traders once boats landed; or c) simply gave them what was leftover after wholesalers had taken their part is left unclear.

Whichever way, Diop (2002, 204) pinpoints this post-war period as an important moment in the commodification of processed fish. In his own words:

The diversity of preservation methods is the expression of the vitality of artisanal fish processing. Once a method of household production practiced mostly by fishers' wives with the goals of saving, conserving and diversifying their families' diets—that sometimes gave rise to small market transactions—artisanal processing evolved from a production geared towards use to one geared towards exchange.

Mbengue (2011, 102) provides us with an example from Kayar. Whereas fish processing had been a secondary activity based on women collecting unsold fish and what was washed ashore to make small quantities of *guedj*, Kayaroises started to set up larger scale operations processing shark filets in the 1950s. Commodification then involved a number of distinct dynamics: product diversification (with concomitant refinement of processing techniques), buying fish as a business input and a shift from production for use towards exchange. It seems that even as the number of outlets for a fisher's catch grew and the end use of his wife's products changed, however, there remained a sense that both partners had some claim to the bounty of a fishing trip. Or, at the very least, this was the case in Saint-Louis, as the previous paragraph suggests.

Writing in the 1980s, Chauveau (1985, 161) helps us further flesh out the regional geographies of gendered access to fish. In his description of the shift to petty commodity production in the trade of fresh fish, he explains:

It was in the 1950s that artisanal fishing definitively acquired the form that it has today: that of an activity based on intra-household production but whose products are destined for the market through intermediaries such as fishers' wives

(especially in *La Grande Côte*), wholesalers (especially in *La Petite Côte*) and through selling to European export companies (notably for crustaceans).

Though Senegalese pirogue fisheries as a whole were characterized by processes of motorization, marketization and commodification at the time, this quote underscores the importance of place in evolving divisions of labor. It suggests that fishers' wives in Saint-Louis and Kayar (both located in "*La Grande Côte*") sold their husbands' catch, using leftovers for *guedj* production. In *La Petite Côte*, where Joal is located, wholesalers were starting to take on more important roles but the consequences for women were as of yet unknown.

3.3. 1970s-1980s: The vertical integration of purse seine fisheries⁴⁰

The second major development contributing to the commodification of artisanally processed products followed close on the heels of motorization and, in fact, depended on it. The purse seine technology, introduced with the support of the Food and Agriculture Organization (FAO) in 1973, led to a noted increase in the landings of small pelagic fish in *La Petite Côte* region, soon accounting for two-thirds of the tonnage of artisanal production at a national level (Kébé 1994). A decade later, there were 265 purse seiners counted in pirogue surveys. This led to: 1) increased landings, commercialization of fresh fish and artisanally preserved products; 2) the construction of bigger pirogues; and 3) new organizational forms, including new sharing systems of profits favoring capital investors (Chaboud and Kébé 1986).

⁴⁰ See Chapter 4 for a detailed dissection of the political economy of the purse seine fishery.

The technology ushered in high returns but required large upfront investments. So large, in fact, that one fisherman in Joal recalls his father, a community leader at the time, refused to buy into the scheme. As he put it:

In the beginning of the 1980s, there were only 2 or 3 purse seine fishing craft in Joal. The first one was brought here because they wanted to try to see if it would work in Senegal. I remember my father, who was the president of the first refueling cooperative. They wanted to give him a purse seine so he could try it. But once they told him that they would give it to him on credit and follow-up with him, he asked the price. When they told him, he responded “millions of francs (fcfa)! I can’t put myself on a limb for millions of francs. If I do, tomorrow I might not have anything to pay with and then they will sell the very house where I live with my family. No, no thanks, it’s not for me.” He didn’t dare take that risk. They gave it to another fisher who tried it but my father didn’t want anything to do with it. That’s why, to this very day, we don’t have a purse seine in our family. My father was afraid of it. And so are we.

In other words, the purse seine represented a high-risk/ high-return investment.

Not only did the gear cost money but so did the boats required to operate it. Originally, two boats were used—one to carry the crew and nets and another to hold the catch and deliver it to the landing beach. Few fishers could make these kinds of investments, creating a new niche for wholesalers in the emerging commodity chain for sardinella. They started to buy purse seine fishing units and to recruit labor instead of relying on boat owners to spearhead operations (Kébé 1994). This model of pirogue fishing was in contrast to, or in some cases built on, that of the family boat. As an old-timer active in the grouper fishery clarified:

At the time, a long time ago, you would see a family of fishers all in the same pirogue. At that time, there weren’t a lot of fishers but of those who were, they were all professionals. Their fathers had been fishers. They had been trained in fishing and would go out to sea. I’ll give you an example- my father was a fisher. He trained us, his sons, and we would all go out in the same pirogue to fish, which is no longer the case today. You can still see a family going out to fish but they will be accompanied by more than 25 people. And these 25 people come from all

over Senegal. There are even fishers among them that don't know how to swim. They go fishing but don't even know how to swim because they came to work just for the money. They go fishing for money. You see that a lot especially with the purse seine fishing craft.

The labor recruited for the purse seine fishery was thus quantitatively and qualitatively different from that of the “family boat.” More people were needed but it was ok if they were unskilled. As a rule, they were from agricultural areas that were in decline because of long-term drought conditions compounded by structural adjustment policies adopted in the late 1970s. Further evidence of their non-fishing-family origins was their inability to swim.⁴¹ At least one scholar has argued that employing “fishers” in this fashion led to a proletarianization of the industry (e.g., Nguyen Van-Chi Bonnardel 1980). This may be over-stating the case. To this day, fishers working in purse seine fisheries receive a share of the proceeds, based on what they catch, rather than a set wage per se. What we can take away is that the introduction of this technology led to major upheavals, including the vertical integration of the fishery in *La Petite Côte* region with wholesalers becoming the effective owners of the means of production in many cases.

The evidence is mixed when it comes to the implications of these shifts for gendered regimes of access to fish, however. For instance, Kébé (1994) argues that wholesalers who had the capacity to buy vast quantities of fish marginalized women who did not have the same financial resources. In her study of the socio-economic aspects of artisanal fish processing in the coastal city of Mbour (also located in *La Petite Côte* region), Durand (1981, 39) echoes this sentiment: “The sale is made by an intermediary who is permanently on the beach and so knows the state of the market and will fix the price of the catch. Traditionally it is the fisherman's wife who sells catch of her

⁴¹ In Wolof, fishers who do not know how to swim are pejoratively referred to as *naaxa naaxa*, or amateurs.

household's pirogue. But with the introduction of large canoes such as purse seines employing a crew of ten men belonging to several families, men increasingly supplant women in this position.” In this scenario, fishers’ wives’ roles as the first recipients of fish and overseers of sales was the norm against which change was measured. No longer did all crew members belong to a single family group for whom the matriarch was singular and clear. Rather, the introduction of non-specialist labor from multiple families muddled kinship ties (whose wife, or mother, would sell the fish and why?) giving rise to new roles for men who were somehow situated above the family fray.⁴²

Yet this view contrasts with that forwarded by many authors who frame artisanal processing as a feminine realm that could only benefit from enhanced production. This is based on the idea that artisanal processing absorbs “overproduction” and “what is left unsold” to limit waste and post-harvest losses (e.g., Ndiaye 2012, 20, Sène 2010, 7). This recalls the example of *guedj* discussed in the previous section, which is a technique that adds value to fish that could easily go to waste. Such a conceptualization is elaborated by Durand (1981, 13) as follows:

Absorbing unsold fish and using the species not consumed fresh, processing does not compete with fish trade... The fish trade, due to its failures and conservation problems in Africa, can only absorb a limited amount of landings. In contrast, processing uses very little capital and can adjust to different production volumes. Its adaptability also helps stabilize prices and attribute value to fishing surplus. Fish trading and processing are thus complementary and have developed in parallel. This development is both cause and consequence of the expansion of the fishery.

Following this logic, the combination of increased production and a lack of adequate refrigeration was in fish processors’ interests because it meant there was more surplus for

⁴² According to my survey results, over 80% of boat owners report that the person in charge of selling is *not* a family member. For those who do employ family in this role, not one reported a female member. Rather, male cousins, sons, brothers, uncles and fathers occupied this role.

them to work with. Simply, who had first dibs to the catch was a non-issue because times were plentiful.

These assessments then provide us with two hypotheses about the implications of the vertical integration of sardinella production for women. On the one hand, women are squeezed out as the first receivers of fish. On the other, increased production could only help those who gleaned unsold fish (this, of course, assumes that there are leftovers, which the chapter 5 problematizes). What is undisputable, however, is the extent to which the sheer production of small pelagic fish such as sardinella fuelled *keccax* production, arguably the most important innovation in artisanal fish processing in the 20th Century. *Keccax* operations were particularly prominent in *La Petite Côte* where the purse seine technology had taken hold, leading to the employment of thousands of people there by the early 1980s (Durand 1981).

3.4. Cut and Dried? Social implications of restructuring in the Senegalese fish processing industry

The picture I am painting here is one of sea changes that firmly established fishing and fish processing as full-time professions in Senegal by the early 1990s. What might be called capitalist development, including technological changes such as the adoption of motors and new gear, commodification of fisheries products and consolidation of wealth in the hands of those able to control numerous stages of production, fuelled increased landings. In turn, and as we will see, the new uses fisherfolk made of what was landed fed into this multi-pronged, dynamic process to such an extent that some, arguably, became victims of their own success.

For the rest of this chapter, I would like to unpack the specific nature of these shifts in post-harvest production and their social implications. In particular, how has structural change in Senegalese seascapes affected women's roles in fish processing? This discussion not only has important consequences for gender politics at a national level since Senegalese politicians often cite the *femmes transformatrices*' cause as a placeholder for women's issues when trying to court the female vote (*pers.comm.* 16 July 2015). It also provides us with foundational background information for understanding the material and discursive resources industry actors use to position themselves as gendered subjects to gain and maintain access to fish, which comprises the subject of the last body chapter and promises to give us a deeper appreciation of how gender can be made real for strategic purposes.

To engage these questions, I draw on material from the primary case study for this dissertation, Joal, and compare it with the experience of women fish processors in Kayar. I argue that fish processing has changed in a number respects over the past two and half decades due to the conjunction of several factors, including: a) modernization of processing technologies that facilitate large-scale production of *keccax*; b) changes in both fish supply and demand, the former due to the introduction of the purse seine and the latter due to competition from those producing for sub regional wholesalers from Burkina Faso; and c) varying degrees of political mobilization on behalf of actors within the industry. These changes have radically reworked the division of labor both between men and women and among women in Joal, with much wider involvement of men in processing and a gradual differentiation among women who end up occupying different structural positions within the industry. But the experience of Kayar tells a different story

that emphasizes the importance of women's agency in advocating for their business interests and enrolling allies in positions of legal authority in their efforts. In short, I contend that the gendered outcomes of structural change are not so cut and dried as the literature on globalization of the fish trade and its impact on women would make it seem.

3.4.1. The case of Joal: a microcosm of Senegalese seascapes

An impressive diversity of high and low-value species are landed in Joal. In terms of sheer production, it is the top fish processing center in Senegal, followed by Saint-Louis, and Mbour (Sall, Dème & Diouf 2006). It is also the center of *keccax* production in particular, which is currently by far the most highly exported and economically important artisanally processed fisheries product among the major types. In 2011, for example, over four times more *keccax* was exported (in terms of value) than the second most exported product (DPM 2012). The top importers for this Senegalese specialty were in the West African sub-region with Burkina Faso leading the pack and Mali and Côte d'Ivoire trailing a distant second and third place behind.

Joal was not always the crossroads for Senegalese fisherfolk that it is today. In 1961, there were only 6,500 inhabitants—the majority of whom were not engaged in the fishing sector. As the sardinella economy grew as a result of the town's strategic location close to the mouth of the Sine Saloum river delta and as a site of purse seine investments, those seeking relatively remunerative work would come on a seasonal basis. As time went on, some started to settle, buying land, building homes and bringing their families to live with them. By 2015, the town had become a small city with an estimated population of 50,000 (Soumaré 2011). It is also the place where the most fish in tons is landed annually at a national level (Sarr, F.K. 2012). In short, the growth of the fishing economy

has contributed directly to Joal's physical expansion (Sarr, A. 2012). 95 percent of active fishers were not born there, which reinforces the fact that most active fisherfolk are first generation migrants or migrant laborers (Yenot-Faysol 2012, 38).⁴³ Put another way, it has been a destination for economic migrants rather than a place of origin for fishing families per se.

3.4.2. 1995-2015: *Spatial reorganization, cement-block ovens and exporting keccax*

Up until 1995, fish and mollusks were cleaned, smoked, fermented and dried on the beaches lining Joal's coastline (Ly 2008). The beaches doubled as a landing, gleaning and processing site that facilitated collaboration between husbands and wives since they were on hand to survey the boats when they came in and helped unload them. Processing was still based on family labor. Fishers' wives would draw on their daughters, nieces and other junior female kin to help with the cleaning, scaling, salting and drying that was involved in *keccax* production. As Aïssatou, a successful fish processor in her late forties, recalled of her childhood, once she was old enough to accompany her mother to the beach, she started to learn the family trade. As she underscored:

On the beach, we would braise the fish on the sandy ground together. Once we took the fish out of the boats, we would arrange it in a circular pile on the ground, put palm fronds, scales and ash on top of it before setting the fire. The next day, we would come back and scale and clean the cooled down fish. We would sweep up the remains of the fire and after having finished, we would take bowls full of the processed fish to lay out on drying tables (*todj*). Then we would bundle up the *keccax* and wait for the traders to come- they would negotiate a price and we would sell to them the bundle they chose. That's how we used to work at the beach back in the day.

⁴³ Survey findings also confirm that fisherfolk have moved to Joal since the 1960s. 83% of boat owners participating in this data collection exercise were not born in the burgeoning coastal town.

When I asked the president of the women's fish processing association what she remembered about the *keccax* sector as a child, she built on these themes, emphasizing:

Back then, fish was inexpensive because there was a lot of it. There was so much of it that we would dump it on the ground (i.e., throw away the surplus) in Joal... We would divide fresh fish up into baskets. During that era, it was the young women who did this work. Our older relatives were the ones who oversaw and put us to work (i.e., delegate tasks). And we were the ones who would help them out. Back then, roles for men transporting fish on their heads from carts to ovens (*yobbukatu jën*) and unloading the boats (*wacckatu jën*) didn't exist yet. It was women who would unload the boats. We would carry our bowls, empty the fish into them and bring it to shore. No one paid us anything. When the boat you were helping to unload was empty, the owner would take your bowl, give you some fish and say "this fish is for your lunch or dinner" (*mu tudd sa ndawal*). Then you would go off to look for the next incoming boat.

During the course of interviews with fishing elders, I continued to probe what economic life was like on Joal's beaches. When I asked the president of the quay's council, a man in his seventies who retired from public life over the course of my research, if his father only sold fish to his wife or had other customers, he responded:

No, because all that my father had, my mother could not buy it. There were people who came from the surrounding villages with their donkey carts who would buy fish and go home to sell it. If my father caught sardinella, he would first sell it to wholesalers who came from Kayar. They would gather their money together to buy the fish, put it in their car, and go off and sell it somewhere else. Once that was done, it was my mother's turn to take her share. There were women whose husbands had boats and others whose husbands didn't. The former would get maybe ten baskets of fish and share three with the latter so they too could make some money.

Together, these quotes highlight a number of points. First, boat owners gave away small amounts of fish to young women as payment for key services, and they, in turn, funneled it into the processing businesses of their senior female kin. Second, boat owners in Joal and the surrounding areas would first sell fish to wholesalers and only when that market

was saturated would they sell any to their wives. At times, when supply outstripped demand, they would simply dump fish at sea. These discarded fish would eventually wash up on beaches, and fish processors would process them for resale. Third, this last quote illustrates an important aspect of business on the beach; fishers' wives' *keccax* operations were small in scale, not able to absorb more than ten baskets of sardinella at a time. This theme is one that was repeated in other interviews emphasizing the inability of women to buy a boat's entire catch. And even if they could, the techniques used at that time were not efficient enough and the beach not spacious enough to process large amounts at once. Rather, *keccax* was made in small batches, based on family labor but for market sales.

As Joal's population grew, however, there were complaints that the smoke emitted from braising was a public nuisance and a count against the rapidly urbanizing city's tourism industry. In addition to Senegalese fisherfolk, migrants hailing from Guinea and Burkinabe entrepreneurs started to become visible in the early 1990s, contributing to what some research participants described as chaos on increasingly crowded beaches. Soon, the inhabitants of adjacent neighborhoods started to express dissatisfaction with the air pollution, debris and rotting fish that was dumped on beaches.⁴⁴ As export markets in Europe became more important, there was also a shift at the national level to separate processing and landing sites to enhance cleanliness and hygienic conditions of fisheries products destined abroad (Ndoye and Mbengue n.d., Moity-Maïzi 2006, Sarr, E.F. 2008).

⁴⁴ Events and discourses culminating in the re-location of processing activities inland was not a major focus of data collection, but conversations with Joal inhabitants suggest that understanding the role of "nuisance talk" (Ghertner 2012) in this process would be a fruitful avenue of future study.

In Joal, this physical move was financed by the African Development Bank and implemented through the *Projet d'appui de la pêche artisanale sur La Petite Côte* (PAPEC) (Sarr, F.K. 2012). The municipality was also very supportive of the initiative. Ibu, special councilor to the mayor's office and owner of the motorbike who called me out for being an extractive student (see methodology chapter), explained this strategic move in the following terms:

In the beginning, elders worked alongside the houses lining the beach and cooked sardinella on the ground. It was crowded there so we brought them to Khelkom where there was space for a bigger site. We also brought them to Tann Ba since Joal didn't have an economic base except for what came from the sea. At that time, fish smoking didn't really generate any significant revenues. That's why the mayor set aside this land, at the sites, and gave it to city residents so that they could work and develop their businesses here.

Enhancing food safety and reducing environmental hazards came at certain costs, however. For starters, relocating introduced the need to pay for transportation of fish from landing sites, a well documented phenomenon throughout *La Petite Côte* region (Sarr, E.F. 2008). The first site, referred to as Tann Ba, is located 5 kilometers southeast of the quay and specializes in smoked and dried sardinella (*keccax sans sel*), which is sold in sub-regional markets, largely Burkina Faso. It is equipped with 414 smoking ovens and 1242 drying racks. The second, Khelkom, is located 3 kilometers east of the quay, housing 251 ovens and 753 drying racks. It is different from Tann Ba in that it represents a microcosm of the range of artisanal fish processing techniques present in Senegal. It is divided into three main areas. The first contains fisheries products made through fermenting and drying (*guedj*). The second comprises cement-block ovens and drying racks for smoking, drying and salting sardinella (*keccax*) that is largely sold in Senegalese markets. The third is set-up for larger scale production of *keccax sans sel*,

which like its larger counterpart, Tann, is sold in the sub-region. As I made clear in the methodology chapter, the majority of participant observation for this dissertation was conducted at Khelkom.

The relocation and spatial reorganization of the processing industry had other important consequences as well. Notably, it effectively displaced *femmes transformatrices* and cut off key sources of fish supply since their junior female kin were no longer on hand to welcome the boats and so were not given bowlfuls of fish in thanks for unloading. Sheer distance meant that it was virtually impossible for *femmes transformatrices* to play the role of first receiver of fish. Nor were they as attuned to market conditions as they had been when they were stationed on beaches that they shared with wholesalers. As a result, processors came to rely on intermediaries for raw product who would shuttle between landing and processing sites (Kara Matari 2012). As Fatou, a woman in her seventies who started processing fish in 1974, explained:

How things work now has changed a lot because we used to go to fishermen directly so that they could give or sell us fish and we would actually get some profits from it. Nowadays, we can't do that anymore because there are a lot of people working between us and them. We go through or are forced to compete with the intermediaries. You want to buy (fish) so you come (to the port) and haggle with him. He will say "increase your bid" because there are other customers too that will want a share and he is not afraid to tell you that you are only one of many. There are a lot of intermediaries in the fishing business. Really, there are a lot.

It is not a far-fetched conclusion that these middlemen (and, as will see, women) drive prices of fish up for *femmes transformatrices* since they need to cover their own costs before passing the fish to the next actor in the commodity chain.

Moreover, whereas start-up capital for beach processing had been low, as many fish smoking operations were conducted on the ground, establishing one's business in an

“improved” processing site became relatively expensive. This was in large part due to the introduction of cement-block smoking ovens (*fours parpaing*),⁴⁵ which were expensive to construct and cost money to rent if one was not an owner. On the other hand, if one had the financial means to cover these upfront costs, then one could expand operations and take advantage of new business opportunities due to increased market demand from other West African countries (see Ndoye, Moity-Maïzi & Broutin 2002). Thus, where fisher’s wives were once only able to process up to ten cases of fish in one sitting on beaches, the president of the donkey- and horse-driven cart owners’ association (who is himself active in acquiring raw product) reports that some of his customers at Tann Ba now have the capacity to transform 600 cases of sardinella per day. It seems that the municipality’s goal to “develop” fish processing is in some senses a *fait accompli*.

These shifts had important implications for some fishers’ wives. As the share of *keccax* production geared towards export markets took off in the early 2000s, some *keccax* producers (*lakkkat*) were forced to choose between buying land and constructing ovens in a new processing site or closing their own businesses to become laborhands (*xoolikat*) on other, relatively well-off entrepreneurs’ accounts. This was because clients coming to Joal to buy *keccax* for resale on the sub-regional market had a preference for product made in ovens since more oil is discharged in the cooking process, resulting in an

⁴⁵ In light of these and other developments, scholars have raised concerns about where the fuel for fish smoking operations comes from, indicating that the need for kindling has contributed to mangrove deforestation in the Sine Saloum delta, and elsewhere (see Conchedda, Lambin & Mayaux 2011, Crow & Carney 2012). Though fish smoked with wood is said to produce a higher quality product, other less expensive combustibles such as dried palm fronds, millet and corn stalks, are also popular, at least in the economically central *Petite Côte* region (Ollivier & Petit 2007).

end product that tends to last longer.⁴⁶ As Ramatoulaye, the wife of a Sereer pirogue owner whose home I visited on countless occasions, recalls:

NM: You know, years ago, women used to make *keccax* but now we've stopped. You see, sometimes when you would produce, you would sell well and make a profit. Other times, you would have a loss. But we always braised the fish on the ground. Then our customers—the ones who liked that taste of braising on the ground—stopped coming around. That was around 2003 or 2004, I think.

ADT: What do you think brought about that change?

NM: You see, once you braised sardinella, it took a long time to sell it. And the more it would dry, the more the weight would drop, which means you would lose money (because it was priced per kilo). When you sold it, there wasn't really any money in it so we became work hands (*xoolikat*) on other peoples' operations. If you go to clean fish (*xooli*), you sit and you don't have any costs. What you make, they pay you for.

ADT: So back when you made *keccax* (at the former beach site) there weren't a lot of costs because you braised the fish on the ground?

NM: There were costs. You would go to the quay, buy fish, bring it back in a cart, pay young men to arrange the fish in a pile, put fronds over it and light it up until you came back the next day to clean and salt it. You would buy salt, pay those who worked for you. Those were all costs.

ADT: So if I'm hearing you clearly, the costs were considerable but less than what they became around 2003-2004?

NM: They became heavier, I'd say. What you spent paying for fish was already expensive and then this story of there not being many customers interested in our product—you see what I'm trying to say here!

ADT: What do you think contributed to such a situation?

NM: It depends on how you look at it. All I'm saying is that sometimes you reap rewards from your work, other times you don't. People from the Sine Saloum delta used to come here and buy *keccax* but we don't really see them anymore.

⁴⁶ The estimated cost of constructing a cinder-block oven, or kiln, ranges from the equivalent of 500 to 1,000 USD, depending on size and quality of materials used.

Maybe one every once in a while. But when it comes down to it, the ovens are why there isn't a lot of braising on the ground anymore at Khelkom.

ADT: Huh, so who braised sardinella in ovens then?

NM: At first, it was the menfolk who did it. They left the women to braise on the ground as they did it in ovens. But there are some women who did it too—not many though—there's certainly a lot more men.

ADT: What led to men having more ability than women to braise in ovens?

NM: Maybe they're the ones with more money. Because when men started out, the Burkinabes would finance them, help them get their businesses off the ground. This is how it would work—if they financed men, they would go buy fish, come back, treat the fish, use the money to cover their costs and then the rest would be theirs. But us—us—nobody will finance us. Rather, if our husbands go out to sea and come back with fish, they give us some. Then, once we've transformed and sold the product, we pay them back what we owe them. Then, if we have a profit, it's for us to keep.

ADT: You take your profit?

NM: Yes.

ADT: For yourself?

NM: You know, men, if they give you fish, and then you transform and sell it, you pay them back once you've taken out your costs. If you have a profit, you keep it. If not, you start the process all over again.

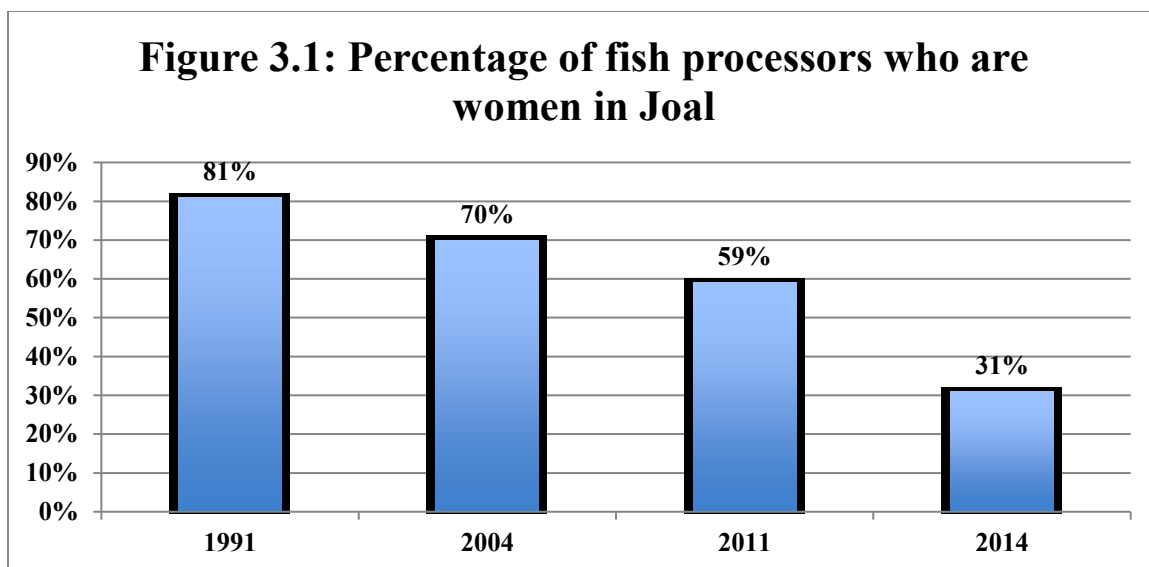
What this exchange elucidates is the importance of access to technology that increases shelf-life for fisheries products under changing business conditions—access in this context meaning the ability to gather money to invest in a cinder-block oven as the primary clientele for *keccax* became located further and further away. According to Ramatoulaye, Senegalese men were able to access this technology thanks to advances from Burkinabe entrepreneurs who would infuse large amounts of capital into the

production system in exchange for an agreed upon amount of finished product to be delivered in the future. Male *keccax* processors also used this money to buy fish in cash, upfront. This is in contrast to fishers' wives who would agree on a price for the fish, take it on credit and only pay their husbands back once they had sales receipts. This suggests that who accesses fish and why may also be a result of the cash flow needs of fishers—a hypothesis that I explore in subsequent chapters. The major point here is that, according to this informant, Burkinabes consider men more creditworthy than women,⁴⁷ which facilitated large-scale *keccax* operations. At the very least, asymmetrical access to credit has meant that some women who previously owned their own ventures became laborers at piece-meal rates on these men's businesses.

There is thus a basis for arguing that changing locations, the introduction of new technology and increasing exports of sardinella-based products have all contributed to a changing gendered division of labor in Joal. Some statistics bolster this claim (see Figure 3.1). Over the past two and half decades, the percentage of fish processors who are women in Joal has dropped from 81% to 31%.⁴⁸ This steady decline suggests that a) men have entered the sector to create new businesses, reducing the overall ratio of women's ownership shares in fish processing; b) the number of men in business has remained relatively steady but women have exited the sector *en masse*; or c) there is another explanation.

⁴⁷ See also Hall-Arber (2012) who discusses women's relative lack of access to formalized credit sources as a major disadvantage. This was also an issue that women raised often in community meetings that I also attended, suggesting that the microfinance industry's credo that women are more creditworthy than men does not always translate into gender parity in access to credit lines, especially those large enough to meet *femmes transformatrices*' business needs (see Duffy-Tumasz 2009).

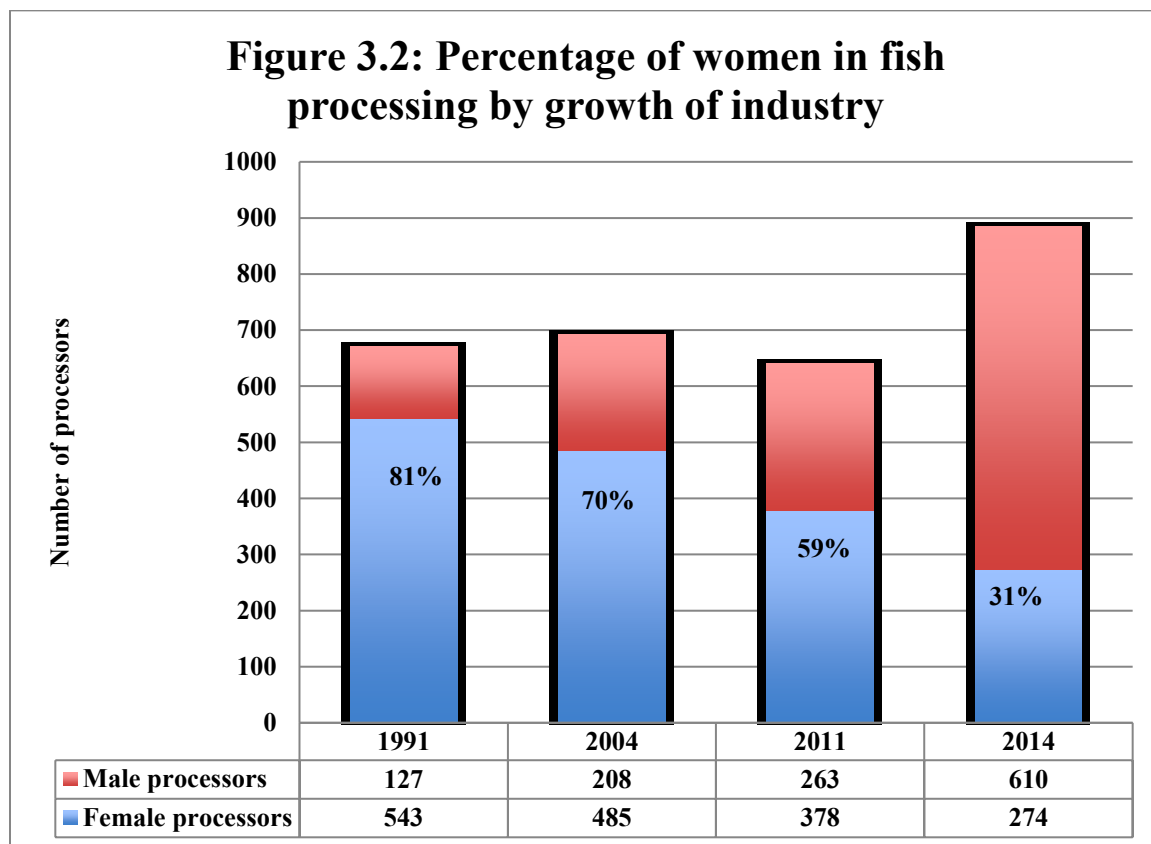
⁴⁸ Fish processors in this context refer to those who have owner-operated businesses. These data do not include the auxiliary positions such as cleaning, smoking or fermenting fish that are also important to understanding the industry but for which reliable statistics are currently unavailable.



Sources: Camera and Denouvilliez (1991); Sall, Dème & Diouf (2006); USAID/COMFISH (2011); *pers. comm.*, July 2014

Perhaps contextualizing women's participation in the growth of the processing industry will provide some clues (see Figure 3.2). From 1991-2014, the number of processors operating in Joal grew by nearly one third—the very same time period when the percentage of active *femmes transformatrices* dropped so significantly. In 1991, there were 543 women processors whereas by 2014 that number had been nearly halved to 274. This suggests that men have stepped in to create their own processing businesses as women have exited the sector. And, if we look closely enough, 2011 seems to be a key turning point in this unfolding narrative. Between 2011 and 2014, the number of men processors more than doubled whereas the number of women processors decreased by 28%. Future research will have to explore what happened in the early 2010s to catalyze this process. But given Ramatoulaye's comments, one might guess that these businessmen have the financial means to invest in the working capital necessary to make use of new opportunities through exporting to the sub-region, especially to Burkina Faso. The data suggests that paying for fish, in cash, on delivery, is an important part of this

picture. This has contributed to the demotion of some women from business owners to day laborers. Others have left the sector entirely. But there are still women in business, and this raises the questions of who has succeeded in their efforts to remain engaged in *keccax* processing and how they have attained this success.



Sources: Camara and Denouvilliez (1991); Sall, Dème & Diouf (2006); USAID/COMFISH (2011); pers. comm., July 2014

3.4.3. Women's adaptive strategies to changing market conditions

Most basically, the sheer existence of 274 *femmes transformatrices* still in business in Joal suggests that gender alone is not a determining factor in one's professional success or failure. These women continue to work and have found ways to adapt to changing market conditions despite the growing distance between producers and consumers in the *keccax* commodity chain and all that this implies.

There are a number of possible outcomes for women in the restructured fish processing industry. For example, in his detailed case study, Ly (2008) highlights a key strategy that *femmes transformatrices* have used in the wake of changes in the sardinella economy. As *keccax* production has increased, men have come to specialize in the production of the variety of this key commodity made for export (*keccax sans sel*). Women, on the other hand, have come to specialize in the variety made for Senegalese markets (*keccax avec sel*), folding this product into their business portfolios along with *guedj* production (see also Moity-Maïzi 2006).⁴⁹ Diversification has allowed these women entrepreneurs to maintain access avenues to multiple kinds of fish, including large, high-value fish not fresh enough to be sold on export or elite markets in Senegal, and small, low-value fish such as sardinella, which can be transformed into *keccax*. Not specializing in one product also means that they have a number of distinct income flows, which facilitates them braising sardinella in relatively smaller batches than those producing *keccax sans sel* exclusively for the sub-region who must make large quantities at a time to make it worth it for Burkinabe entrepreneurs to buy and arrange truck transport across long distances (Sarr, F.K. 2012).

Moreover, it is important to emphasize that women are not entirely excluded from the vertical integration of the *keccax sans sel* chain. Three ways of continuing to participate can be isolated. The president of women processors at Tann Ba, the site specializing in products for the Burkinabe market, confirmed that some of the women she represents take advances from investors to buy fish and then deliver a previously agreed upon amount. In this regard, they operate as capitalized sole operators, just like many of

⁴⁹ In many instances, women employ male day-laborers to assist in *guedj* production, mirroring the widespread practice of men employing female day-laborers to assist in *keccax* production.

the men who have entered the *keccax sans sel* market. A second pattern involves women who have entered into sub-contracting relationships with regional investors who supply them with fish in exchange for transformed product. Finally, as discussed in the previous section, ever larger numbers of women engage in wage labor on men's operations. Data is lacking as to the relative distribution of each of these outcomes. But the first two of these three specific structural positions help explain how successful women processors have adapted to changing market conditions. The third illustrates a possible income for those who found it too difficult to buy the technology needed to compete in a marketplace that has been increasingly integrated into regional networks of exchange.

3.4.4. *Political mobilization in Kayar*

Kayar is situated in the *Grande Côte* region, an approximately two hours drive north of Dakar. Unlike Joal, the Guet-Ndariennes who have taken up residence in Kayar are largely homogeneous in ethnic make-up. These fisherfolk are known for their *savoir faire* in processing techniques. For many years, as was the case in Joal, the processing sector absorbed surplus fish that was not otherwise sold. Today, *femmes transformatrices* combine strategies for accessing fish, including buying waste products from industrial factories (this paragraph draws strongly on Diop 2000). But in 2004, all but one of the processors surveyed in Kayar were women (Dème, Sall and Diouf 2006). And interviews suggest that this largely remains the case to this day. This begs the question of what accounts for processing remaining women's work in Kayar, in contrast to Joal.

One explanation forwarded in case studies of this coastal town suggest that women's continued involvement in *keccax* processing is due to its lack of integration into European export commodity chains. For example, Mbengue (2011) highlights that

landings of high-value fish have gone down, raising competition among buyers in such a way that prices out *femmes transformatrices*. She views *keccax* production as a defensive strategy for those women who keep themselves in business by concentrating on low-value fish such as sardinella. In her own words, “Sardinella has not yet entered into export circuits. This fact limits competition when it comes to access (to fish) since all the fisheries products that are in export circuits have become inaccessible to women” (*ibid.*, 187). For Mbengue then, women’s continued involvement in *keccax* production relies on the affordability of primary material and the fact that the varieties produced in Kayar are largely destined for Senegalese markets. Mbengue, Cormier-Salem and Gueye (2009) add that Dakaroises prefer *keccax* made in Kayar because it uses fish that is considered to be sustainably caught as its base and produces an end product that has an especially savory flavor (see also Moity-Maïzi 2006).

This partial explanation resonates with a thread of the globalization of the fishing economies literature, which suggests that as niches in commodity chains become more profitable, men tend to replace women in these positions. For instance, Mbengue’s account hints that if *keccax* originating from Kayar were to start being exported to Europe, ownership of processing businesses might change hands, becoming men’s work. It is safe to assume that to export to Europe, one would also need access to preservation technologies such as cement-block ovens. And, in turn, the logic goes, this need would enhance the roles available to entrepreneurs who could afford these capital investments. This line of reasoning certainly sounds a lot like the case of Joal, and Senegal more generally, where buyers of high-value fish tend to siphon it off into highly regulated cold chains as soon as possible, relegating fish processors to adding value to lesser quality

fish. In itself then, it would be difficult to argue that this helps explain the difference in the gender breakdown of fish processors in Joal and Kayar.

It may be useful at this juncture to shift gears from trying to understand the impacts of structural change *on* women to examining how women's actions, alliances and agency can shape who has the ability to benefit from *keccax* processing. An informational interview I conducted with the president of the fish processing site in Kayar helped solidify the importance of such an approach. First explaining the range of products produced at the site, including those destined for the national market, Burkina Faso, Togo, Benin and Ghana, she explained that some of the women at the site were, in fact, engaged in contractual agreements with a Burkinabe customer. He comes in December, she explained, signs a contract with the president of marketing and gives her 2-3 million fcfa (4-6,000 USD) to distribute among the processors so that they can buy sardinella for *keccax sans sel* production. This indicates that at least some of sardinella processing in Kayar is destined for export markets (though within the sub-region), much like in Joal.⁵⁰ The difference, she emphasizes, is that men do not own processing businesses in her hometown. The following exchange elucidates the point:

ADT: So you mentioned that the women here in Kayar are very organized—so much so that you refuse to let men work here (in the processing site). Can you explain to me how that came about?

MN: Because processing is for women. We made it very clear that it's a woman's realm not a man's.

ADT: Hmm... why do you think that's the case ?

⁵⁰ The share of *keccax* produced in Kayar that is destined for export as compared to Joal is not available in fisheries ministry reports, which do not disaggregate data beyond the regional level.

MN: We saw other sites like Joal and Mbour where women don't really have the means to work as a result of men starting to work there. The sites there are almost entirely for men now. But why? The women should have refused to let them (the men) in at the beginning—from going to sea, buying fish at the beach *and* coming to process fish. We refused to let them do all of this for a while now, because men have a lot more financial means than women. If we let them really work, we wouldn't work any longer—we would risk becoming laborhands. And when it comes down to it, the processing site is meant to be for women. That's why we refused to let men come work here. We, the women, have a marketing committee, a supply committee, a hygiene committee so that we can better manage the site and all that goes on here.

ADT: Oh, I see.

MN: Yes, now you do.

ADT: Yes, when I was in Joal in 2005 for example, I saw that the working conditions there are very difficult. How specifically did you manage to overcome those obstacles here ?

MN: Thanks to advice the fisheries administration gave us, we approached the police force and signed papers.

ADT: I don't fully understand.. ?

MN: The local fisheries administration, the senior management of the fisheries ministry and the police force assisted the women here to sign the papers and make everything official.

ADT: Oh, to say that it's for women..

MN: (To say) here is for women. It's not for men.

ADT : What an interesting story.

MN: It's for women not for men. The processing site is for women, it's not for men—we signed papers saying so with the police force !

Though I tried to interrogate Maty as to why processing was women's work, she took this as a self-evident fact whose truth was verified by the state authorities who reinforced it as

such. This quasi-codification of a prevailing gendered division of labor is, as far as I am aware, unique to the case of Kayar, which hosts a fishing community reputed to be tightly-knit and well-organized. But the conceptualization of fish processing as women's work more generally in Senegal is clear in the terms people use to talk about fish processors. *Femmes transformatrices* is the most widely used phrase, which literally translates as women processors. This is used in lieu of *transformateurs*, which is a gender-neutral term in French that describes the same occupation: a linguistic choice that is repeated so often that the gendering of work becomes invisible. *Femmes transformatrices* then has become shorthand for fish processors in everyday conversations, development discourses as well as in mass media. For example, during an episode of a popular round-table Meet-the-Press type news show called *Décryptage* on April 18, 2013, the Director of Artisanal Fishing at the Fishing Ministry referred to the problems of *femmes transformatrices* as though the sector remained an exclusively feminine realm. At a press conference on November 18, 2014, the Minister of Fishing and Maritime Economy announced a wide-reaching strategy for modernizing artisanal fishing where he identified *femmes transformatrices* as the key beneficiaries to receive training in best practices on how to improve artisanal processing techniques. Drawing on the historical construction and contemporary reiterations of processing as women's work and learning from the case of Joal, Kayaroises organized collectively to advocate for protective measures at the municipal level to keep them in business. They also established a supply committee to help ensure that processing operations attain enough inputs to function. Moreover, Kayaroises refused to let the precedent of the mayor allocating land to any entrepreneur who would pay municipal taxes in Joal take hold. And

in so doing, these *femmes transformatrices* demonstrated the potential of political mobilization to safely keep fish processing a women's space in their hometown.

3.5. Conclusion

One way to synthesize the data in this chapter is to understand the implications of changing seascapes for the family boat model. This is a theme that underlies much of the dissertation but it is worth elucidating what we have learned at this juncture.

Changing political economies in Senegalese pirogue fisheries have taken a number of forms but perhaps the most fundamental is the process whereby boats changed from community assets to private property. This shift is best illustrated by the introduction of the purse seine, which required large infusions of cash, taking on debt in cases where owners were fishers (and not wholesalers), and re-investing gains in ever larger boats to generate the money needed to pay back creditors. This sequence of events entailed a number of changes in the social and economic relations of production, including: 1) different market structures for accessing fish; 2) the employment of non-family labor and thus new contractual agreements for compensation; and 3) new roles and entitlements for patriarchs, matriarchs as well as junior kin. It is important to emphasize that these shifts had distinct regional variations, however. In *La Petite Côte* where purse seines had taken an especially strong hold (and where Joal is located), these changes manifested in enhanced roles for wholesalers. But in *La Grande Côte* (where Kayar is located), fishers' wives continued to oversee their husbands' first-sales, suggesting that kin-based economic forms either had deeper roots or stronger proponents for their survival. An interesting topic for follow-up research would be to further

investigate the history of women's collective organizing and individual acts of resistance in Kayar.

To return to the key questions guiding this chapter, it is also worth spelling out how structural change in the fish processing industry has affected women. For one, in Joal, it has upped the ante in terms of upfront investments needed to make businesses profitable, driving a wedge between those women who are able to hold on and those who must let go. The latter are unable to compete in the marketplace and so sell their labor on others' operations whereas the former compete in the marketplace by adopting one of two principal strategies for staying in business. These shifts have changed the division of labor so that access to fish is no longer based exclusively on kinship ties. In the past, *keccax* production was made possible because of *femmes transformatrices*' relationships with boat owners as well as their seniority over junior women in the family who would complete auxiliary tasks, donating the fish they received as compensation to their elders' processing operations. These strategies worked in and through gendered relationships of reciprocity and accountability that were proportional to the scale of businesses on both sides. Compiling small amounts of fish gained through these socially-mediated transactions sufficed for businesses that relied on braising technologies requiring low capital investments and that provisioned markets relatively close to production sites. But as competition from entrepreneurs looking to make quick profits in far-away markets has made attaining economies of scale more important in the marketplace, *femmes transformatrices* have had to get big or get out, changing the gendered composition of business owners with as of yet largely unknown consequences.

On the other hand, women have contributed to economic restructuring of the fishing sector by making creative use of what once went to waste. *Femmes transformatrices* saw a business opportunity and seized it. With the introduction of new fishing gear in the 1970s, there was an abundance of small pelagic fish that were not going to use. *Femmes transformatrices* transformed this low-cost input into something that would keep and in so doing, circumvented the limitations of questionable road infrastructure and lacking refrigeration to create a commodity. The commodification of *keccax* allowed fishers' wives to earn an income and, in some cases, accumulate wealth. But as with most dynamic processes, there were identifiable winners and losers, especially as markets for smoked sardinella grew in ways that required investment in new preservation technologies. The case of Joal, where the municipality sold land to just about anyone who hoped to engage in fish processing, shows how commodification can lead to social differentiation among economic actors (in this case, among women). The case of Kayar, on the other hand, where women's political mobilization led to local authorities defining processing as women's work, shows how protective measures can shelter nascent industries from "free" market competition.

Despite these changes, however, gender has continued to serve as a central organizing principle of the *keccax* production system in Senegal. In Kayar, the historical precedent of fishers' wives selling and processing fish was harnessed to keep processing businesses in their hands. In Joal, the introduction of purse seines and the increasingly important roles of wholesalers meant that the definition of women's work changed. Processing had once been a side income for women and now the role of day-laborer (*xoolikat*) seems to replace this role. It provides a small, supplementary income to

household budgets and is still exclusively a female realm. So in a sense what it means to be a woman still organizes the social relations of production in Joal but the practice of dividing work tasks strictly according to gender has migrated down the commodity chain to govern those performing manual labor. These also happen to be the least remunerative positions. But the main point is that this locus of adding value operates according to gendered logics. It is the composition of the ownership of the means of production that has loosened to include both women and men. Thus it is not just political economic shifts that determine who has the ability to benefit from a resource. Rather, evolving seascapes are mutually constituted with gender as a marker of social difference with unpredictable outcomes. Change is, after all, contingent *and* context-specific. It provides a stream of opportunities for political mobilization that actors must seize should they want to defend their financial interests.

4. "The sea is my only hope":⁵¹ Masculinities, migrant labor and boat ownership in the encircling gillnet and purse seine fisheries

The growth of a purse seine fishery in Senegal marks a transition to a fishery characterized by capital-intensive technology and high labor inputs. In this chapter, I contextualize this shift within the political economic and ecological history of Senegal and consider the extent to which this technological change has created new social and economic relations of production among men working in the fishing sector. The lenses that I use to shed light on the specific dynamics of change include systems of compensation for those employed in the fishery and financing mechanisms for fishing expeditions. These dynamics are important firstly because they show how surplus was and is made in the purse seine fishery. Second, a focus on financing mechanisms shows how the fishery has become a conduit for liquid capital, to be invested and paid back with interest to the creditor. The creation of a system that can absorb large infusions of outside labor and capital has in some senses made the purse seine fishery a “spatio-temporal fix” for overaccumulation (see Harvey 2003, 109-116). In sum, I argue that the introduction of purse seiners into Senegalese fishing economies amounted to a disruptive technology that reshaped how men related to one another, as they 1) responded to agricultural decline through labor migration to coastal areas and 2) became enrolled in a prevailing order of hegemonic masculinity specific to this fish production system.

4.1. Theoretical framing

According to Marx (1967 [1867]), primitive accumulation was a precondition for capitalism involving two major processes. First, it was characterized by taking away the

⁵¹ This is my translation of the oft-repeated Wolof phrase, "gej gi rekk moy suma yaakaar."

means of subsistence from producers, as for example, in England, with the enclosures movement. Second, it created a labor force, untethered to land as a result, that the owners of now private land (and other means of production) could employ as wage laborers. Thus privatization and proletarianization went hand in hand in what was conceptualized as a discrete historical phase in capitalist development (see Glassman 2006).

For Harvey (2003, 144), this framework is problematic, however, because it "relegate(s) accumulation based upon predation, fraud, and violence to an 'original stage' that is considered no longer relevant." In contrast, he argues that the contemporary era is characterized by *ongoing* processes of "accumulation by dispossession" that solve, at least temporarily, the crises brought on by the overaccumulation of capital and labor endemic to the system through "spatio-temporal fixes." These fixes deal with capital and labor that cannot be used productively by spreading them geographically and temporally (through long-term investments) so that they do not lose value. This recycling of capitalism's by-products perpetuates patterns of inequality by consolidating wealth in the hands of a few while dispossessing many of the possibility of livelihoods that do not involve wage labor.

I use Harvey's theoretical framework for thinking through the purse seine fishery and the role it has come to play in Senegal. I bring a gender analysis to the questions of who becomes dispossessed, and under what circumstances. Among the main figures I consider are fishers who feel pressure to take employment in the fishery despite diminishing returns. Other key actors include boat owners and wholesalers who strike up contractual agreements that actively re-work regimes of access to fish with important

implications for *femmes transformatrices* and, more broadly, gendered relations of reciprocity and exchange.

4.2. Findings

4.2.1. *The decline of the groundnut economy*

Groundnut-based products made up 80% of Senegalese exports in the 1960s, nearly dropping by a factor of ten to 8.2% in the early 2000s (Diop et al. 2004, as cited in Boccanfuso and Savard 2008). Fisheries products have since eclipsed this once paramount cash crop (cf. Chauveau and Samb 1989). Today, fisheries products are the most important generator of export earnings, accounting for 30% by a recent estimate (Mbaye 2012, 347). This transition from a groundnut to a fisheries-based economy is important to consider so that we can subsequently contextualize young men's rural exodus to coastal areas to take up employment in artisanal fisheries.

The historical predominance of groundnuts in the Senegalese economy was largely shaped by colonial policy that encouraged a shift in agricultural production to monocropping of peanuts for sales abroad (Boone 1992, 106). The post-colonial government continued with this policy, known as the groundnuts first (*priorité de l'arachide*) policy, continuing the strategy of working with the religious brotherhood association known as the Mourides to exert influence over the peasantry (ibid.). Acting in their positions as rural elites, Mouride leaders tended to control the agricultural cooperatives distributing inputs such as seed, fertilizer, equipment and credit to producers (Cruise O'Brien 1971, as cited in Boone 1992). In the 1960s and 70s, "peasants mortgaged future harvests to obtain inputs by buying on credit and repaying later either in

cash or in kind. The debt trap tied them to the groundnut and to a purchasing monopoly just as it had in earlier days" (Boone 1992, 106-7).

The reliance on groundnuts as a cash crop came to a crisis point in the late 1970s as a result of a combination of factors, including the withdrawal of French production subsidies, falling export prices, rising input costs and Sahelian drought (cf. Delgado and Jammeh 1991). As Senegal's gross domestic product (GDP) fell and oil prices peaked, the country adopted a program of structural adjustment—a conditionality of loans administered by the World Bank and the International Monetary Fund (IMF) to cover the country's faltering balance of payments. This catalyzed a shift in agricultural policy that was made tangible by the middle of the decade.

Perry (2005) outlines the gendered consequences of the state's approach to rural production systems pre- and post-1985. As she argues, from 1960 to 1985, farming inputs were allocated in a way that reinforced the authority of male household heads (*borom kër*). This allowed them to fulfill their conjugal obligations by providing food for their families and granting dependents access to income generating activities through the allocation of land and equipment use. Since *borom kër* were in a position to fulfill their side of the intra-household bargain, wives were expected to "follow (their husbands') dictate(s)" (ibid., 217). It was only later, post-1985 when the groundnut economy started to falter that many Wolof women living in the groundnut basin took up petty trading, altering the balance of gendered income flows and household power.

An enduring consequence of these new policies was opening the trade of commodities produced in Senegal to price fluctuations in world markets. Trade liberalization was a hallmark of structural adjustment programs and continues to be

implemented through Poverty Reduction Strategy Papers (PRSPs), which according to some may differ in name with the former but may in fact amount to "old wine in new bottles" (Cling et al. 2002). In particular, producers growing groundnuts to be processed into vegetable oil became more vulnerable to declining world prices, in part through the state's withdrawal of support measures such as seed and fertilizer subsidies, credit lines and price supports to farmers (Oya 2001, 138). This trend was only compounded by the 50% devaluation of the national currency (the *franc cfa*) in 1994, which made imports more expensive and exports less remunerative (cf. Fontana 2013). This meant that many peasants were no longer able to cover production and subsistence costs through groundnuts alone. Farmers started to sell equipment during the lean season to make ends meet, effectively denying their dependents access to independent incomes by forfeiting the tools needed to cultivate (Perry 2005). This left farming households in a bind; many were unable to produce enough food to meet even their own caloric needs (Gray 2002). Young people's enhanced mobility acted as an adaptive strategy to these changes in rural production systems (Foley 2010). Though older generations complained because migration led to a higher work burden for those left behind, the diversification of livelihood strategies to non-farm activities created a source of income that, when remitted, became crucial to survival in rural areas (Mertz et al. 2009, see also Duffy-Tumas 2009).

This confluence of political economic and environmental changes resulted in the effective separation of young men (among others) from the means of agricultural subsistence, creating a footloose labor force that artisanal fisheries were primed to absorb. In the wake of the devaluation, state programs were also put in place that

facilitated the export-orientation of the fishing sector (Dahou and Dème 2002). The production of deep-sea (i.e., demersal) species highly sought after on export markets has since declined due to overfishing, prompting a re-orientation towards surface-level (i.e., pelagic) species that are now crucial to national food security and fishmeal processing. The growing importance of fishing economies can also be seen in trends of the number of artisanal boats fishing in Senegal's waters; since the 1980s, they have tripled from approximately four to twelve thousand (Fontana 2013, 45).

Not all of these new boats target sardinella, but the purse seine fishery in particular has been a major sponge for migrant labor. This is because it requires a relatively large number of fisher hands, thus it incorporates on-the-job training to facilitate entry of young men and boys who hail from inland areas. This ease of entry and propensity for the fishery to absorb migrant labor is illustrated in the following exchange from a focus group discussion.

ADT: So if there is someone like you who comes from a non-fishing family, what must this person do to learn to fish?

SS: Fishing is a job that is not difficult to learn. You only need three or four days (of practicing to do it) since you will be doing the same tasks over and over again. If you take a close look at purse seines, out of one hundred people employed on them, eighty will be from the countryside where their families don't know anything about fishing... (Now that we know what we're doing), it is us who will teach (a newcomer) how to fish. We will show him the ropes... and with time, he will get the hang of it.

In this instance, the fishery absorbs the unskilled labor that would have, under different conditions, been productively employed in farming economies. When I asked a follow-up question about why my informants did not choose agriculture instead of fishing since that is the dominant profession where they come from, an interlocutor from the same focus group explained:

In Senegal, people's lack of financial means is why everyone is in the fishing sector. Because if you farm, you have to have equipment and tools- you can't farm with your hands only. Our grandparents had hectares and hectares of land but we don't farm because we don't have any money and you have to have money to buy equipment and tools.

This excerpt underscores three important points. First, it corroborates Perry's (2005) finding that the forfeiture of key equipment such as plows works against the ability of rural citizens to cultivate land. Land is not lacking, but the tools needed to farm it are. The speaker's emphasis on the centrality of money highlights that cash crops—or another source of reliable income—are needed to keep production, and survival, going. Second, a lack of funds associated with diminishing returns to farming pushes young men to seek other income-generating activities, most notably in the fishing sector. In contrast to farming, fishing represents an opportunity for youth to make an income without having access to (or owning) the means of production. Third, land has not necessarily been enclosed in rural areas, but processes of agricultural decline have effectively denied young men the ability to cultivate it. This differs from the primitive accumulation heuristic originally proposed by Marx; the nature of contemporary agrarian change in West Africa does not mirror the historical development of capitalism in England. However, if we switch the focus from land to other factors of production (i.e., equipment and tools), we start to see that many Senegalese youth have been kept from reaping the benefits of farming systems, i.e., unless they diversify their household's livelihood strategies. Arguably, young men have been effectively dispossessed in such a way that has created a newly mobile labor force that the purse seine fishery is primed to absorb.

4.2.2. Systems of compensation

Clearly, all fisheries in Senegal cannot be grouped together. And Davis (1996) makes an important distinction between "livelihood harvesting" and "accumulation harvesting," which will provide us with a useful heuristic for thinking through the two principal sardinella fisheries in Senegal. In the Western contexts that Davis uses as reference points, the former description conveys a fishery grounded in a community-based economy involving friends and, oftentimes, kin, that uses selective gear and small-scale fishing craft. In contrast, accumulation harvesting more closely aligns with a capitalist mode of production and exchange, involving large, industrial boats employing non-selective gear and hired hands who do not express as high a satisfaction with their work as livelihood harvesters (*ibid.*, 100-1).

One could argue that such a distinction creates a false dichotomy; categorizing a fishery as one or the other suggests that there are not hybrid forms that have developed in articulation with distinct market structures, changes in technology and work processes over time. It has the potential to mask the fact that mechanisms of accumulation and complex multi-sectoral livelihood strategies highlighting the interplay of agriculture and fishing are embedded in diverse fisheries. But this framing also provides a way for thinking through the transition that Mbaye (2003, 169) identifies from sardinella fisheries based on the use of the encircling gillnet to economies based primarily on the purse seine in Senegal. Though the purse seine is not an industrial fishery, it is arguably motivated primarily by accumulation with important consequences for extractive behavior (I will shortly outline the principal differences between these two gear types). Despite these reservations, using these broad categories explicated by Davis (1996) is important because they underscore the extent to which profit-making has become the key

motivation for fishing as the notion of the family boat becomes an institution anchored in certain communities rather than all.

Key to understanding accumulation in sardinella fisheries is examining how fisheries-based products and masculinities are co-produced in Senegal. The aspiration to be a boat owner can be understood from a variety of social and economic perspectives, but looking closely at the class relation between mere fishers and the owners of the means of production sheds light on how the financial motivations for owning one's own craft are paramount. Working as a mere fisher provides benefits for young men who, for example, have no access to working capital and have entered fishing as a way to sell their labor power. But the purse seine fishery in particular has few, if any, tethers to a community-based economy. Labor is mobile and ethnically diverse, and fishers exercise relative choice in deciding how to allocate their earnings. In contrast to the gillnet fishery where boat ownership is a gradual process as savings are accumulated, the purse seine fishery tends to rely on the infusion of outside financial capital for mere fishers to become boat owners. This means that the attainment of the status of boat owner—a key marker of adult masculinities in the marketplace—is qualitatively, not to mention quantitatively, different for participants in the two fisheries.

One way of looking at the impacts of political ecological change on the social and economic relations among men working in the sector is through an analysis of the relative distribution of proceeds to labor vis-a-vis capital. This responds to St Martin's (2007, 534) assertion that "the question of the distribution of costs and revenues, of capital and labor, has been largely ignored by a dominant economic discourse preoccupied with solving the problem of rent dissipation." Rent dissipation in fisheries refers to a scenario

where open access and profits generated from harvesting the resource encourages new actors to enter the sector so that pressure is such that harvesting costs ultimately equal revenues. The institutionalization of private property in fisheries, advocated by fisheries bioeconomists and policymakers, is meant to solve this problem so that rent can be generated among boat owners and/or the state, which allocates the rights to harvest. St Martin (2007) argues that decades of fisheries development in New England has not produced the desired outcome of capitalism, however. Rather, because of 1) a share system keeping surplus embedded in fishing localities; 2) the immobility of capital, and 3) the common pool nature of the resource, an alternative economy exists that promotes diverse forms of being in community. The sardinella production system also reveals complex, and distinct, economies that are worth considering in greater detail.

There are two gear types that are responsible for 95% of the sardinella catch in Senegal (Dème 2012, 10). These are the purse seine (*fila tourné*) and the encircling gillnet (*saina*). The purse seine, which we saw in the previous chapter, is characterized by pirogues that average 20 meters in length (but can go up to 40 meters) and are propelled by 40 cv motors. The seine is an active gear type that is made up of a net that is approximately 400 meters long and 42-48 meters deep, with a mesh size between 28 and 30 millimeters (ibid.). The top of the net is kept at the water's surface with styrofoam floaters while the bottom of the net sinks down with the help of lead weights as the boat encircles a school of fish. A cord runs through the bottom of the net and is pulled in so that the net encloses on the fish as if it were a purse. In some instances, two boats are used to operate the purse seine: one for throwing and hauling the net, by hand, and the second for holding the catch. An average crew is made up of 20 people, but can easily go

up to 40 during the day-fishing season when young fishers will go in the water to agitate the fish, splashing them into the net. Complementing those working at sea, there will be fishers on land since members of a crew will often alternate fishing with supporting the operation by repairing nets and overseeing the unloading and sale of the catch when the boat(s) comes ashore. In addition to *yaboy meureg*, which is a highly migratory species most abundant in Senegal's water from November to March (Corten et al. 2012, 15), purse seiners can catch a variety of other fish, including croaker, bluefish and white carp. Purse seiners have a year-round fishing season because of their non-selective gear; they can easily adapt to the availability of different fish that inhabit coastal surface waters at a given time.

The encircling gillnet, by contrast is cast and emptied into a single, smaller boat that employs an average of nine crewmembers. Boats tend to be about 15 meters long, and are propelled by 18, 25 or 40 cv motors. Nets are rectangular, ranging from 100 to 300 meters in length and 10 meters in depth. Nets are cast around a school of fish, one or two crewmembers jump in the water and use a pole or paddle to scare the fish so that they get caught in the net's mesh (Bousso 1994). The nets are then let to sit for up to an hour. This gear type is more selective; there are different mesh sizes for different types of target species. When the captain wishes to target *sardinella leata* (bonga or *cobbo*), for example, he will use a net with a mesh size of 40 to 45 millimeters. When *yaboy tass* is the species of choice, a net with a mesh size of 30 to 35 millimeters will be used (Mbaye 2003, 169). *Yaboy tass* is less mobile than *yaboy meureg* (Corten et al. 2012), and less is known about how stocks are reproduced and move, though we do know that they tend to inhabit relatively shallow areas closer to the coast (Thiao 2012, 9). One account reports

that this fishery is most active during the hot season (ibid.) The president of the encircling gillnets professional association pinpoints the season more precisely from December to June, just before the rains come. The Niominka, a subgroup of the Serer ethnicity, tend to own and operate this type of gear, combining fishing with agriculture during the off-season. This means that the majority of those engaged in this fishery only reside in major fishing towns such as Joal for part of the year.

Each gear type has a different system of remuneration for boat owners and crewmembers. According to multiple actors, including a retired Niominka fisher from the Sine Saloum delta, a leader of the interprofessional association governing the fishing quay and the president of the purse seiners' association, these different systems tend to benefit purse seine owners more so than owners of encircling gillnetters. Purse seiners first deduct costs from total receipts, then one-third of the proceeds go to the owner of the net. The remaining two-thirds are divided by the sum of the number of fishers who went to sea, the number of women who cook for the crew plus two or three. These two (or three) last parts represent the boat(s) and the motor's shares. Boats also vary in how they compensate work leaders. For example, a captain of a given fishing trip can earn two to four times a mere fisher's share. This last detail largely depends on the "generosity" of the net owner who, incidentally, tends to also own the boat(s) and motor. Like the purse seine fishery, the gillnet fishery takes all costs out of revenues before allocating parts to actors occupying different structural positions in the production system. However, in contrast to the purse seine, the remuneration is much more egalitarian; proceeds are divided by the sum of the number of fishers who went to sea plus three. These three parts represent the

boat, motor and net's shares, respectively. Respondents did not mention captains receiving more than mere fishers, but this does not rule out that possibility.

These findings highlight a number of important distinctions between the two fisheries. The gillnet fishery's surplus is divided more or less evenly between those who fish and those who own the equipment. This is especially the case when different components (such as the boat, net and motor) are owned by different people. For instance, it is not uncommon for brothers in Niominka fishing families to own different parts of the fishing equipment that make a collective enterprise possible. It is only when the boat, motor and net is owned by the same person that they receive three times more than any given fisher. This is the highest ratio of difference between the lowest paid and highest paid member of the operation. On the other hand, the purse seine fishery tends to consolidate capital in the hands of one person. Assuming twenty laborhands, two cooks and a captain who makes two times that of a mere fisher, this means that the owner of the boat, net and motor makes fifteen times that of an individual fisher (see Table 4.1). Boat, gear and equipment owners in both fisheries shoulder the responsibility of making repairs and upgrades when needed, and purse seiners are more expensive in this regard. Yet, as Dème (2012, 19) calculates, even when maintenance and repair costs are taken into account, an owner of a purse seiner makes six times more than a fisher, versus the owner of a gillnetter who ultimately makes half of what a fisher makes. He estimates that the annual return on investment for a purse seine owner is 24.8%, with a 4-year period of recuperation on invested capital. The annual return on investment for a gillnet owner is 6.8%, taking on average 14.7 years to recuperate invested capital (*ibid.*, 19). This confirms interview data suggesting that the particular benefits of boat ownership for this

latter gear type may lie in attaining a certain social status and using the boat as collateral for other purchases rather than using it as a generator of income itself per se. As Mbaye (2003, 186) clarifies, “in the words of many boat owners, the seines provide more *daradia* (social prestige) than *dërëm* (money)... possession is synonymous with social success in fishing.” In sum, we can start to appreciate the extent to which social and economic inequality is enhanced within the purse seine fishery through work processes when compared with the longer standing gillnet fishery. The market for *yaboy meureg* is also more profitable than that for *yaboy tass*, since the former is now eaten fresh as well as processed. The latter is largely reserved for processing ventures, and only eaten fresh when no other fresh fish is available.

Table 4.1: Distribution of gross revenues to capital versus labor in the purse seine fishery

	Net	Motor	Boat	Captain	Fisher	Cook
Proportion of receipts	$1/3(x)$	$2/3(x)/26$	$2/3(x)/26$	$2[2/3(x)/26]$	$2/3(x)/26$	$2/3(x)/26$
Gross payout in USD	\$33.33	\$2.56	\$2.56	\$5.12	\$2.56	\$2.56
Capital versus labor	$\$33.33 + \$2.56 + \$2.56 =$			$\$5.12 + \$2.56(20) + \$2.56 =$		
	\$38.45			\$61.44		
Ration of difference between highest and lowest paid person				$\$38.45 / \$2.56 =$		
				15.02		

Another way that we can see the different ways in which surplus is distributed between the two fisheries is by looking at how revenues are paid out and managed. The gillnet fishery is more rooted in kinship relations, and lends itself to institutional arrangements that build on, and foster, interdependence and trust. This can be seen in the widespread model of the *dépôt*, which is a system whereby crewmember and owners' shares are saved, usually in a locked box or bank account, until the end of the fishing season. This means each person receives their share as a lump sum before returning to

their hometown to rest and farm during the rainy season. This serves the dual purpose of channeling proceeds from fishing into socially acceptable uses. For instance, one owner of a gillnetter explained to me that before doling out cash to his youngest fishers, he will ask them about their intended projects. If, for instance, the fisher has concrete plans for the future such as buying cement to start construction on a house, buying a boat or getting married, the boat owner will be satisfied and hand over the money. But if the fisher's plans are vague or simply does not have any, the boat owner will only give the fisher a portion of what he earned and send the rest to the fisher's mother and father in their hometown. This kind of patriarchal oversight is only made possible by the power inherent in being in charge of allocating a lump sum of money and the social network that the boat owner and fisher share. This model is also noteworthy in that it incorporates a savings mechanism for the running of fishing operations. As a last resort and with the permission of the crew, boat owners can dip into the common pot to cover expenses such as fuel during a dry spell without resorting to outside investors. The wealth and debt then stays largely contained within the kinship structure, limiting the incentives for outsiders looking to invest in the fishery.

The purse seine fishery, in contrast, tends to be based on casual labor. Proceeds are paid out at the end of each fishing trip, facilitating transience and mobility of labor force. One focus group participant, for instance, explained to me that he takes advantage of his school holidays to go to a fishing center and seek employment for a week or two at a time. In turn, he will use the money to support his family that lives in an inland area. For those fishers who rely on purse seiners more regularly for employment and have the potential to generate larger amounts of money over time, there are no institutionalized

savings mechanisms available to them as they move up and down the coast, following the fish, in search of temporary employment. As a result, there is also no oversight over how fishers spend their shares. A key difference with the gillnet fishery then is that, with the purse seine model, surplus is not contained within a given community, fishing or otherwise. Money earned at sea tends to be spent on consumption goods (cf. Foley 2010, 49) or when able to be saved, is remitted to one's family of origin, many of whom are involved in agricultural pursuits.

The main analytical distinction I have made here is between labor and capital across the two fisheries. Rather than focusing on the wage relation as a proxy for capitalism, I have tried to understand how the purse seine and encircling gillnet systems manage to distribute surplus. This has revealed differences within the sardinella production system that help us better understand the purse seine as a spatial fix absorbing a labor force that has been made mobile due to agrarian reforms and restructuring. This stands in contrast to the gillnet, which tends to include people of a certain ethnicity, from a certain region and who invest returns on labor (and capital) in their communities of origin. The differential returns to labor and capital in the two fisheries is worth re-emphasizing. Whereas the gillnet fishery is more egalitarian, the purse seine fishery highlights a mode of investment where relationships of inequality are enhanced between crewmembers and boat owners in a context characterized by casual labor.

4.2.3. Boat ownership, social reproduction and hegemonic masculinity

An additional reason for understanding the fishing economy in terms of returns to labor and capital is that it sheds light on the ways that men establish ways of being men, of expressing their masculinities, in relation to one another so as to reinforce hierarchies of

social standing and power. This promises to gender fishers who, when hailing from agricultural areas in decline, I have characterized as the dispossessed. It also serves to blur binary thinking by breaking down the sometimes seemingly discrete categories of women and men. "Men" is a diverse category much like "women" is in the *keccax* processing industry.

Connell's concept of "hegemonic masculinity" (1987) is key here since it refers to a set of gender practices that make certain norms dominate in such a way that subordinates, or marginalizes, other ways of being a man. Building on a Gramscian theorization of hegemony as a process of both force and consent, Connell emphasizes that there are multiple and diverse masculinities in a given society. Marginalized men buy into the notion that hegemonic masculinity is desirable, and so consent to their own subordination—and aspire to dominant norms—in a way that maintains the status quo. This is not to deny the existence of a "patriarchal dividend," which Connell (1995) defines as a bundle of benefits that accrue to all men. These dividends include, for example, higher pay, control over the use of weapons (and, in many cases, violence), and political representation across most societies. However, as Cleaver (2002, 7) emphasizes in her discussion of Connell (1987), "not all men benefit equally from the institutions of patriarchy... some forms of masculinity are culturally elevated above others in certain times and places." My contribution is to argue that being a boat owner is an expression of hegemonic masculinity in the Senegalese fishing sector. This hierarchical apex marginalizes other men such as mere fishers while simultaneously instilling in them the goal to attain power and prestige over other men by following suit.

I began this dissertation with an illustration of two idioms of masculinity pertaining to the fishing sector: the underfed boy (*yaboy*) and the wealthy and powerful man (*thiof*). This is one way of talking that men use to position themselves in regards to one another, assessing their own status vis-a-vis others. But these are not static positions. There are different models for transitioning from one station to another. Henrietta Nyamnjoh (2010, 60) has argued, for instance, that youth attempting to clandestinely traverse the Atlantic in the hopes of reaching mainland Europe are doing so to metamorphose from a marginalized *yaboy* to the socially esteemed *thiof*. In documenting fishers' hopes for becoming boat owners, I would add that the purse seine fishery offers another model of transformation for young men recently arrived in the sector. The motivation to be a boat owner is strong in all fisheries because it is seen as a way for men to fulfill gender norms of becoming a family breadwinner. But the relatively higher returns to capital in the purse seine fishery (and the lack of institutionalized savings mechanisms embedded within the share system) makes ownership simultaneously more desirable *and* less attainable for those working as mere fishers therein—that is, unless they have access to outside sources of credit and/or investors.

Fishers' desires to own pirogues can be seen in the following focus group discussion with youth engaged in the gillnet fishery where one participant describes the benchmarks of being an adult that fishing will allow him to achieve. In Senegal, as Ralph (2008, 6) observes, adults are socially defined as "married people, with children of their own and secure employment." Those who are unable to mark these rites of passage may meet the legal age requirements of adulthood, but because of their inability to provide for their extended families or begin families of their own, occupy the lowly *yaboy*

position in the eyes of their compatriots (cf. Melly 2011). In contrast, the passage below shows how owning a pirogue makes somebody "someone" in the eyes of other people.

ADT: So what are your hopes for the future?

Fisher: Everyone wants to succeed in their work so that in the future, one's kids can point to something and say, "it belonged to our father. Our father was the one who worked hard in the sea, which is why he had this (and gave it to us)." This is what we want for our future...

ADT: Huh, "this is what my father left us."

Fisher: It could be a pirogue. It could be a house too or a house that we built for them. But us, in our way of life, we prefer to have a pirogue. Where we live (i.e., where we come from), if you don't have a pirogue, you don't have anything. You have to have a pirogue so that you can live (a good life). If you don't have one, you are nobody in the eyes of other people. (Since we live in the islands), if you don't have a pirogue, it will be hard on you because sometimes you will want to go somewhere but you won't be able to. Sometimes you will want to borrow (someone else's) pirogue but you don't have any possessions of your own so you will say "let me borrow that" and they will not let you. You understand? You don't have (anything) though you want (a pirogue) so (when they refuse your request,) you just end up with no option but to hold your tongue.

Here, success in work involves one day owning a boat that will facilitate getting married and having children. Not progressing beyond the position of a mere fisher, on the other hand, means that one would be "nobody in the eyes of other people." In other words, pirogue ownership is a way of life for men that makes social reproduction possible.

Fishing is then a way of enacting an aspirational masculinity in this instance because it represents the first step in a trajectory towards assuming adulthood by leaving a legacy for the next generation. This is the primary way of ultimately living a good life and attaining social esteem for youth in the delta. Not owning a pirogue is a marker of not yet being responsible enough to be trusted with the care of prized possessions. Pirogues are so important as assets, a means of transport and livelihood, that only a man who has

proved himself worthy of owning his own craft is dependable enough to be entrusted with the loan of another's.

This theme of ownership and assuming the responsibilities of being a head of household is elaborated in the following passage. When I asked another group of young fishers to explain the benefits of purse seine ownership in particular, they emphasized the greater returns they would receive from fishing and how they would distribute them among their family members as follows:

ADT: So for fishers who own boats, do they (tend to) have them before they get married or after?

Fisher: The thing is as a mere fisherman who does not own a boat and who is not rich, if he gets married... when all is dull and nobody goes to sea or when the sea is fishless, even if you happen to make a catch to take care of your wife, it is very hectic. Even taking care of only a wife is no easy task and that is why if you do not own a boat it will be very hard for you to have a wife. When you do not own a boat, getting married will be very difficult for (you) because the only hope you have is to go to sea, come back and share what you have with your wife, your mother, father. But as a boat owner, if the boat comes ashore and you take your share from the catch, you will have up to two or three shares. In this case you will be able to give to both your wife and your mother. As a mere fisherman with your wife hosted in your father's home, you will have to give household expenses. But, if you live in a similar period when the sea is fishless, what are you going to give to your wife, where are you going to get it from? That is why... if you do not have anything to give to your wife, what are you then going to do? You are a man, responsible for taking care of your wife, but your wife has nothing to eat and you took her from her mother or father's home.

These insights can be clarified with reference to what we know about the purse seine model of remuneration and the fact that boat owners will take out subsistence loans to cover the costs of meals for their families and crew when the sea is not yielding enough to make ends meet.⁵² In this scenario, when a boat goes to sea without bringing back any fish (*am kaya*), a fisher who does not own any gear will not receive any compensation for

⁵² See also Ribot (1998) who documents middlemen providing subsistence loans to woodcutters during production periods as a way to gain and maintain access to charcoal suppliers in Senegalese commercial forestry.

his efforts. This means that he will not have anything to send back home to his family or wife, if married, as the speaker emphasizes. In this same instance, the boat owner, on the other hand, as a result of the collateral he possesses and the need for him to maintain operations, will likely borrow enough money from a wholesaler to keep his crew and family fed. In a scenario where a catch is plentiful, the same mere fisher will get a small portion of the revenues, which may cover his household responsibilities to support his wife in his parents' house, but at a bare minimum level. The boat owner (here understood as someone who owns the net, boat and motor) will receive half of the revenues plus two shares of what, on the whole, goes to labor. Together, this money is enough to meet not only his conjugal but intergenerational responsibilities towards his mother and father. Providing for one's parents and extended kin are subsequent markers of success in work and assuming adult responsibilities in Senegal that pirogue ownership, ideally, capacitates.

Through these selections, we can start to appreciate how work is a profoundly gendered process in Senegalese fisheries. Starting as a fisher and succeeding in becoming a pirogue owner theoretically allows one to fulfill socially assigned roles for men as family breadwinners, and the desire to move up the career ladder cannot be understood without reference to this wider context. Whereas this aspiration is common in both gillnet and purse seine fisheries, the gillnet system arguably facilitates upward mobility through an internalized system that encourages savings and what are seen to be productive investments. In financial markets where there are few formal mechanisms for men to save small amounts of money, however, doling out proceeds at the end of each fishing trip in the purse seine fishery may work against gathering a sum large enough to invest in a net,

boat and/or motor. Yet the underlying aspiration to take on a new role in the fishery may push the farmer-turned-fisher to take on large amounts of debt as part of a long-term project of fashioning a new subject position for himself vis-a-vis other men.

4.2.4. *Financing mechanisms*

Taking a closer look at the purse seine fishery, and how fishers mobilize the capital necessary to start an outfit of their own will nuance the reality of becoming a pirogue owner with important economic and environmental implications, including for whomever accesses what was once low-value fish.

There are three principal ways of borrowing the funds necessary to cover the costs of buying a purse seiner (gear, boat and motor) that I will touch upon here to underscore the extent to which the fishery has become a conduit for liquid capital. The fishery on the whole has been a productive investment for those with excess capital since the early 1970s (Dème 2012). This productivity, in turn, has driven wholesalers and other investors to pour funds into the fishery in ways that promote boat ownership, exerting more pressure on the resource. This confluence of factors theoretically allows new entrants—those who were *not* brought up in fishing families—to acquire their own boats. But we will see that the amount of debt needed to start a fishing outfit is a heavy burden for many, leading to an intensification in fishing pressure, seen in an upward trend in fishing outings. This stands in contrast to the gillnet fishery which tends to keep capital contained within the extended family unit, which necessarily sets limits to how many people can construct boats, buy gear at any one time, and how many trips can be financed during dry spells. This comparative lens lends data to the thesis that there is an uneven

trend underway from livelihood to accumulation harvesting in Senegalese sardinella fisheries.

The first, and most common, way involves a wholesaler providing a fisher with money to buy equipment and boat in exchange for access to the catch until the loan is repaid. In this instance, the wholesaler sets the price and receives the share of the proceeds that would have gone to the owner of the net as repayment. This means that the wholesaler gets privileged access to fish and can elongate the repayment period by driving down the price of the catch. The difference between the going market rate for the catch and the reduced price the wholesaler pays is, in effect, interest on the loan for the repayment period. As a wholesaler who is based in Joal describes how a typical agreement with a purse seiner works:

When they take out the costs (i.e., fuel and meal costs) and there are 150,000 fcfa left of receipts, 100,000 fcfa is for the fishers and 50,000 fcfa is for the net (*thierou mbal*). It's this 50,000 fcfa that he gives to you (the wholesaler) as repayment on the loan. He will write the sum down, and I will keep a record until the debt is paid up. But if the pirogue doesn't have fuel, I'm the one that gives money so that he can buy fuel. Fuel costs are a debt too, so when he has fish, he will take out money from his part and pay me back.... We give them funding worth 20 million fcfa so they can buy equipment and then we continue to make loans for fuel. Us, the wholesalers, we must really be crazy.

In the interview, the speaker goes on to describe what happens when the fisher's debt is fully repaid. The boat and equipment no longer belong to the wholesaler. They belong to the fisher who is then free to engage in sales with whomever he pleases (*la vente libre*). This interlocutor differentiates between good fishers turned boat owners and bad ones. Good ones are loyal to their wholesalers, and keep up the professional relationship by continuing to rely on them for funds to cover fuel costs. In turn, they sell their catch to the wholesaler as a gesture of thanks for continuing to act as a source of credit. In

contrast, bad fishers turned boat owners are disloyal, selling to the highest bidder, ignoring the wholesaler who made boat ownership possible in the first place. Since there is no clause requiring a fisher to continue selling fish to the wholesaler who made pirogue ownership possible, there is arguably an incentive for wholesalers to drive prices down during the repayment period to extend the period of privileged access. The less money is made on a given sale, the less principal is paid off at any one time.

This kind of contract is usually formalized in writing that is signed and notarized. It is also reportedly the number one source of strife for the conflict resolution council of the interprofessional association governing Joal's quay. When, for instance, a fisher who is indebted to a wholesaler sells fish to another without consulting his creditor first, this leads to disputes that, if not solved by the council, are referred to the police station. This legal recourse can result in the following situations, described in the following interview:

ADT: Have you witnessed a situation where a fisher and a wholesaler have gone to the police?

AD: Yes, I have seen people who work but don't reap any benefits from their efforts despite working for a very long time. There is a lot of equipment here (that is on loan). And perhaps at the beginning, things will go well for a fisher, he will generate a revenue but then, as time goes on, three years down the line, the fisher is not bringing in anything at all.... for instance, he will pay back 10 million fcfa in two years but then he still has 10 million left to pay back. He keeps working and working, taking fuel money from the wholesaler, until the debt gets bigger than he can manage. Then the wholesaler will take back the equipment and give it to another fisher. And the fisher who already paid 10 million will have to start all over again.

This explanation shows two important aspects of the financing mechanisms present in the purse seine fishery. Firstly, fisher-wholesaler contracts are binding and when not respected can lead to a wholesaler repossessing a fishing outfit since it is legally theirs until the loan is fully repaid. Secondly, debts are accumulated in ways that can lead to

insolvency. Moreover, when catches are consistently low, an aspiring boat owner must borrow money to cover fuel (and consumption) costs and so intensifies fishing effort in the hopes of paying back debts and generating an income. As Mbaye (2003, 184) explains, the chance of catching higher-value species such as white carp, croaker and/or bluefish motivates decision-makers to keep taking out loans to cover fuel and consumption costs. This is a tangible example of how the structural aspiration to be a boat owner can put more pressure on fisheries resources, based on the assumption that purse seiners quite possibly catch more sardinella in the meantime.

The second type of contractual arrangement that the circulation of capital creates is where an acquaintance provides a fisher with money to buy equipment and a boat in exchange for lump sums of money to be repaid at regular intervals. In this case, the fisher can sell his fish to whomever he likes. The investor benefits from this arrangement by spreading a lump sum of money into smaller payments so as to smooth income. This type of arrangement is detailed in the following interview passage:

ADT: So who lent you the equipment?

SS: He's a friend of mine who used to live in Dakar and made money in the import-export business between Senegal and the US. He's my friend named Meïssa.

ADT: So he's a wholesaler?

SS: Yes, he's a wholesaler.

ADT: So does that mean that each time you land you have to sell him your fish?

SS: It usually works that way but that's not how we do it. I refused that kind of arrangement so we negotiated until we found a solution. As far as I'm concerned, if I have fish, I can sell it to whomever I please. But at the end of each month, he comes to see me and if I have 500,000 fcfa, I give it to him. Or if I have 1,000,000 fcfa, I'll give that to him (too). He didn't come to my aid to exploit me, he wanted to help me. He said to me "if you want to, you can sell to me. If you want to sell

it to another person, sell it to him. It all depends on who is willing to pay the highest price." He helped me. He is really someone who can help you out.

This interview is revealing in that it highlights how money made outside of the fishing sector—in a business that has been facilitated by free trade agreements that were part of the conditions set by structural adjustment programs, I might add—is invested in the purse seine fishery because it is seen as a predictably fruitful venture. Here, friendship is emphasized as a relationship of mutual aid.⁵³ The interviewee's friend has effectively given him money as a no-interest loan since it is not used as an advance on sales. Though I did not have the opportunity to interview the creditor in this particular arrangement, discussions I had with other wholesalers financing fishers whom they knew from outside of the work realm emphasized the altruistic nature of wanting to give friends and neighbors the means to provide for themselves.

The third type of contractual arrangement is less well-documented, though spoken of often. When I was choosing neighborhoods to conduct the survey portion of the research, I was advised that many of the purse seine owners lived in the outlying area of Caritas but were rarely there since they were their second or third homes and not primary residences. Many of these houses are new construction, multiple story structures with tile facades, which stand in stark contrast to the thatch and cement-block buildings that predominate much of the town. When I pressed my interlocutors more about who these people were, they informed me that they were part of the *nouveau riche*, including politicians and to a lesser extent government workers, who had significant disposable

⁵³ This is not unlike the reciprocity that St Martin (2001) examined in New England ground fisheries where fishers exchanged tow path charts to identify productive fishing grounds unimpeded by rocky bottom. Though the medium exchanged in the Senegalese case was the allocation of credit between a wholesaler and fisher (rather than the sharing of information among fishers), this dynamic arguably helped to constitute a community of fisherfolk who otherwise might be obfuscated by a bioeconomics discourse emphasizing open access and individual motivations to maximize profits.

income. I do not have any firsthand accounts of this phenomenon (i.e., from any politicians themselves), but it is an area for future research that, if fruitful, would certainly confirm that the fishery is a site of investment of excess capital, re-purposing money in a way that brings returns to the investor. In these instances, a purse seiner is bestowed onto a captain who collects three shares of the labor component of the revenues (i.e., as an active fisher, the boat owner and motor owner's parts) to motivate him to perform while the actual owner collects the net's share (see Mbaye 2003). This is arguably one avenue for pirogue ownership for the captain since it allows him to generate savings, since he works for his own account, without resorting to taking out large amounts of debt.

Nevertheless, when I asked boat owners in the survey portion of this research whether they borrowed funds from wholesalers to buy boats, nets, motors and to cover other costs, the vast majority of them said no. This is despite private conversations with boat owners and wholesalers that pointed to the contrary, as illustrated in the following exchange:

ADT: So if I'm hearing you correctly, you don't borrow money (from anyone because) you have your own money. But could you talk to me a bit about other pirogue owners too, because I've heard that there are a lot of them that borrow money to have a boat of their own. So could you tell me about how funding for purse seines works (in general)?

HN: Sure, that could certainly be the case (in general) because here, in Joal, I am the only person to have a pirogue without someone else's money in it. For everybody else, they go to wholesalers, take their money, buy a net and work, paying (back) as they go along... But me, when I disembark, I sell to whomever I like, and no one can say anything about it.

This excerpt is interesting in that the speaker fashions himself as the exception to the rule of purse seine owners taking out loans from wholesalers. He talks about his

accomplishment as being "the only person to have a pirogue without someone else's money in it" with pride, which stands in contrast to "everybody else." This theme of widespread use of wholesalers is also reflected in the following quotes from other interviews: "Yes, the majority of fishers go to wholesalers who will construct a pirogue for them so that they can work and pay him back." Or, in the words of yet another interviewee, "Here, 19 out of 20 pirogues are funded by wholesalers to whom we sell our products." After expressing my confusion as to how to reconcile these conflicting sets of survey and interview data, a fishing elder explained to me that people may be unwilling to divulge the extent of their dependence on wholesalers because it would suggest that they do not have any savings, which would be irresponsible, presumably damage their creditworthiness and undermine their emergent masculinity in the eyes of their peers.

One question that arises once we understand the range of strategies for mobilizing capital in the purse seine fishery is: if these contracts are largely (but not exclusively) exploitative, why do young men enter them? I'd like to highlight two points here that can help us frame mere fishers' motivations.

First, as mentioned earlier, making future sales the hinge on which these contracts are based, wholesalers lock so-called boat owners into arrangements where they must continue to try to produce until either accounts are settled or they become insolvent. Like in agrarian production systems more generally, these credit/debt relations characterized by advances on sales transform foodstuffs from something to be eaten into something to be exchanged (cf. Gerber 2014), but not completely. Being a "boat owner" means that one has the right to give away a portion of the catch, for example, for family and neighbors' meals (*ndawal*), before one sells the rest. This is a widespread practice: survey

findings show that 88% of married boat owners distribute fish as gifts to their wives at least some of the time. So even if they are becoming more indebted, "boat owners" are able to fulfill the first and foremost role expected of Wolof (and Senegalese, more generally) men by providing food for their families (cf. Perry 2005).

Second, borrowing money and hinging it on the promise of advance sales is simply one of the only options for migrant laborers whose families tend to not have enough resources to maintain access to farming equipment. This theme is highlighted in the following interview with a young boat owner of a purse seiner who contrasts his situation with that of a gillnetter whose needs would be taken care of by mutual savings, allocated at the discretion of the patriarch:

I said that if I had a pirogue that belonged to my father, maybe I wouldn't be in this situation. Since I wasn't born into a rich family and I need a pirogue to conduct my business, we are obliged to go see the wholesaler so that he gives me funding and I use it (to the best of my ability). In order to have more (in life), there is exploitation and blackmail (too), but I must accept it because I don't have any other financial means. And it can help me to have enough to survive with my family and to have a bright future, and that's a major advantage.

This selection shows the extent to which capital generated external to fisheries is central to young men hailing from non-fishing families making concrete steps to acquiring their own fishing outfits. Senegalese sardinella fisheries cannot be grouped together, since gear type helps us to differentiate systems of compensation and financing of new materials and fishing outings. Professional associations consulted by collaborative management efforts tend to be organized by gear type, and for good reason. Briefly turning to the grey literature to present statistics to bolster my claims, we will see that these different systems of producing and distributing value in the two fisheries are correlated with what appear to be contrasting harvesting logics.

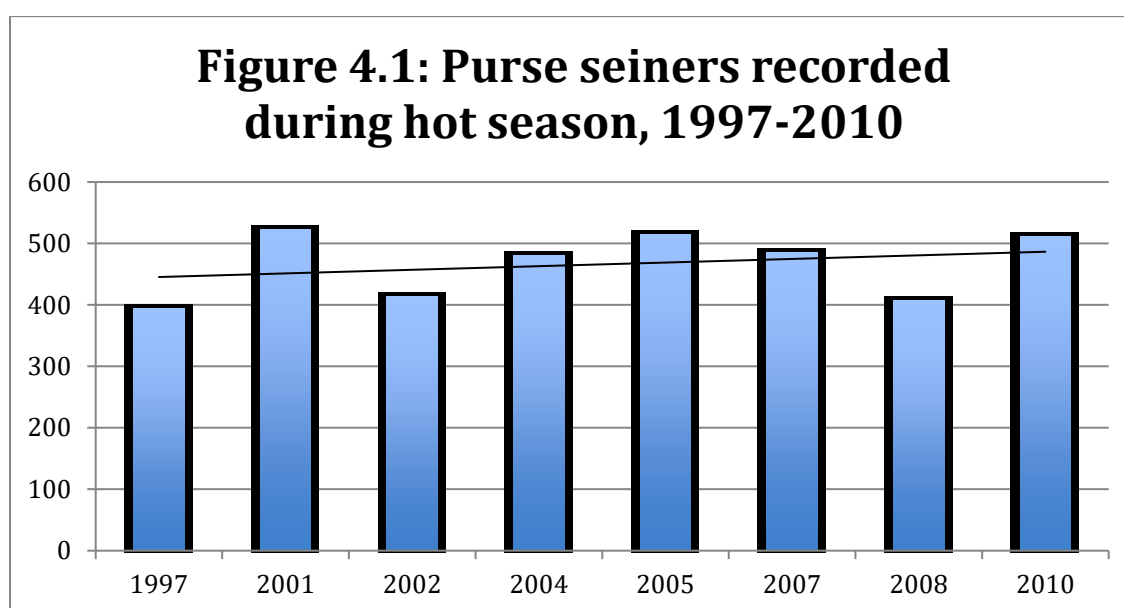
4.2.5. *From qualitative to quantitative data as secondary source*

In their article on women's work in rural labor markets in Mozambique, Sender, Oya and Cramer (2006) argue that life histories can "put flesh on the bones" of market surveys by embellishing quantitative findings with rich descriptions of how the transmission of poverty is an intergenerational dynamic. Though employing a mixed methods approach, the authors' epistemological choices still arguably reflect a broader tendency in the development literature to privilege information that can be easily counted. Here, I would like to present quantitative data so that it plays a supporting role for the qualitative data I discussed in the previous section, in order to foreground fisherfolks' words, experiences and behaviors that are not so easily rendered in a table or graph. Phrasing the use of qualitative data as putting flesh on the "bones" of statistics suggests that, like a skeleton, quantitative findings are largely immutable whereas interview and ethnographic data simply add weight to implicitly more robust findings. I reverse this framing, to unsettle the field's default to quantitative data as source of authoritative knowledge.

In this section, I will briefly draw on the Senegalese grey literature (e.g., COMFISH 2012, CRODT 2011, Corten et al. 2012, Dème 2012, DPM 1999- 2012, Greenpeace 2012, Sall 2009, Thiao 2012, Thiao et al. 2009, Thiao et al. 2012) to examine my hypothesis that indebtedness and intensifying fishing pressure in the purse seine fishery are interrelated processes. The qualitative data discussed in the previous section suggests that the accumulation of debt and predominance of external financing is a key distinguishing feature between the purse seine and gillnet fisheries. I will present trends in the number of boats, indications of fishing effort and landings across the two fisheries

to ascertain whether my qualitative findings are substantiated by this array of calculable data sources.

When looking at 1997-2010 (see Figure 4.1), one observes that the number of purse seiners did not increase significantly over time. This is despite Senegal's fleet expanding as a whole; as a point of reference, Thiao et al. (2009, 12) estimate that the number of pirogues (purse seiners included) grew by 24% between 1997 and 2005. Why might this be the case?



Source: Thiao (2012, 28)⁵⁴

Taking a closer look at trends in fishing effort and landings points to important dynamics that shed light on this question. Based on interviews and other firsthand accounts with Niominka fishers, I contend that gillnetters do not tend to embark on fishing trips to the same extent as purse seiners when the catch is consistently low. This is because the former do not rely on external financing and so must work within the limits

⁵⁴ Thiao (2012, 28) does not report comparable data for missing years (i.e., 1998-2000; 2003; 2006; or 2009).

set by the amount of money a fishing crew is able to collectively save over a season.⁵⁵

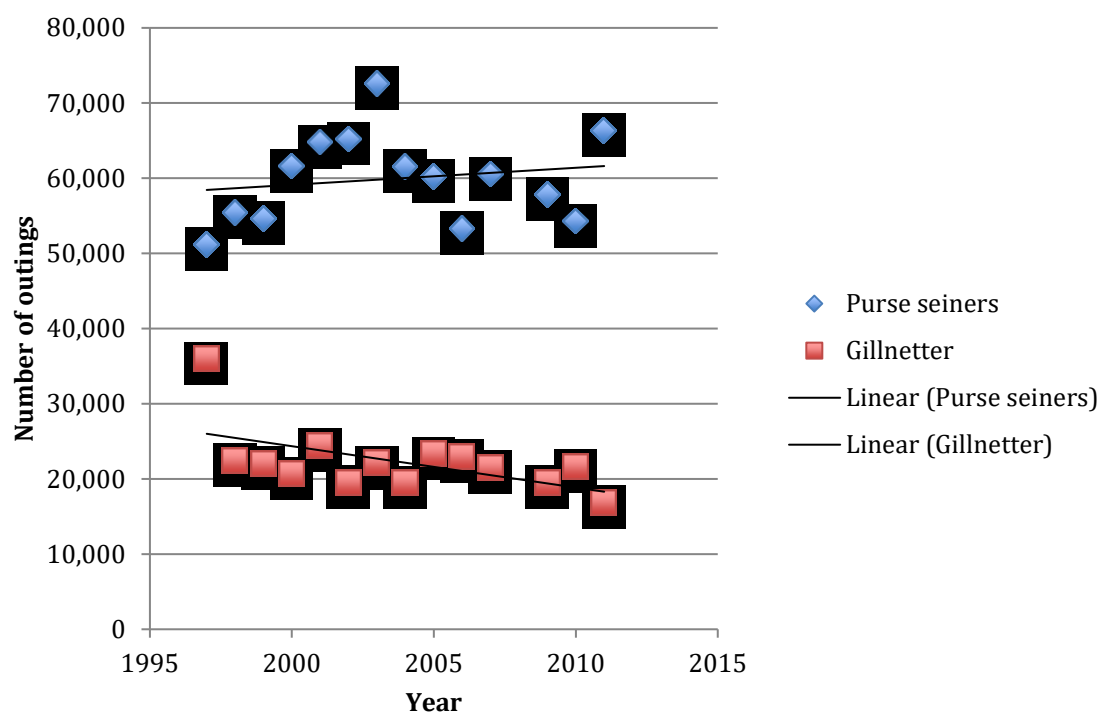
This idea is further bolstered if we return to an interview I conducted with a fisher from a long-standing fishing family engaged in the gillnet fishery. In his own words:

The fishing economy has diminished because before there was a lot of fish, but now fish has become rare and the sea has become bad. The fish that was plentiful is no longer much at all. We used to fish during most of the year (because fishing was good), go home and rest for three months in the village. But today, you're gonna sit around (i.e., not fish) for six months or more. We who use gillnetters, we tend to not work or else we (are) hardly (able to) tack things together.

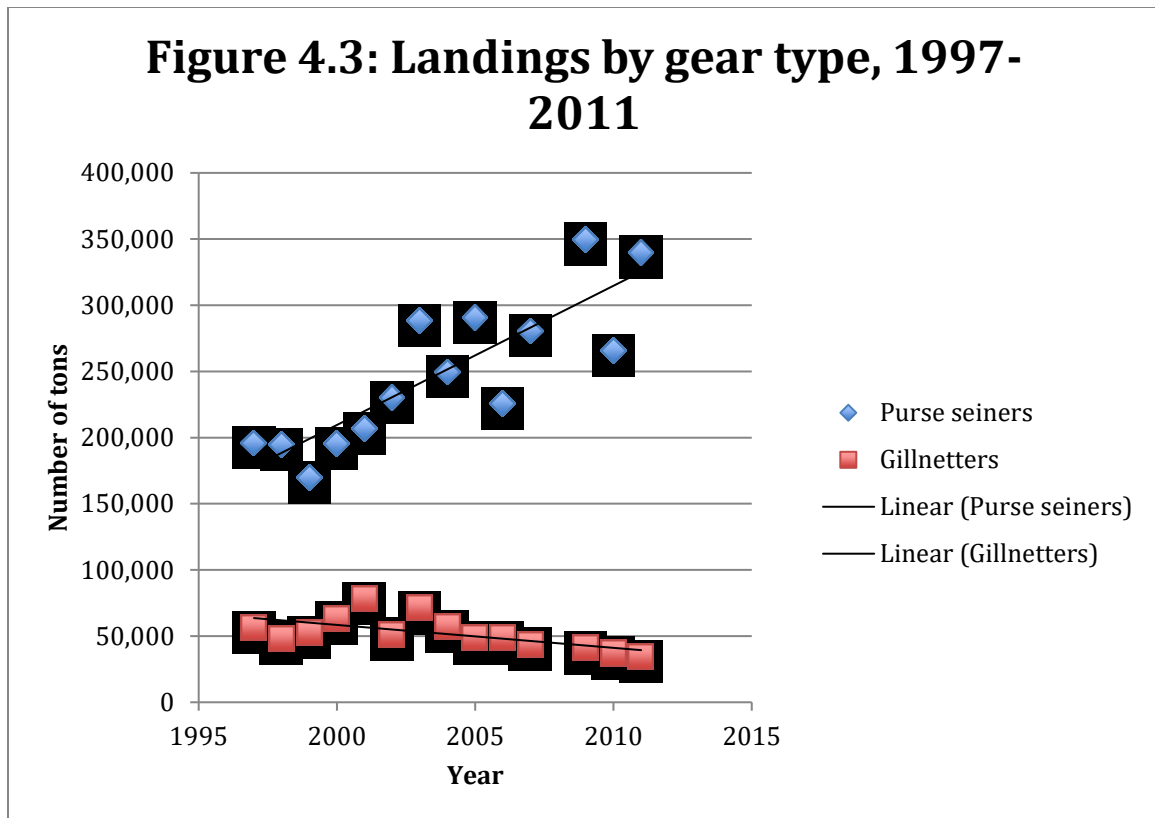
This idea that fishing effort loosely correlates with landings crystallizes further if we consider statistical trends in both variables (see Figures 4.2 and 4.3) for gillnetters, from 1997 to 2011. As landings have decreased so has fishing effort. There is an overall tendency for the movement of these two variables to loosely mirror the trend of the other. Triangulating this correlation with the interview data highlighted here does suggest a possible causation; gillnetters slow down fishing when there are dry spells instead of continuing to accumulate debt like purse seiners do. One possible explanation is that gillnetters do not resort to outside investors to cover working capital such as fuel and food costs. Future quantitative studies would have to test this claim further, but the combination of qualitative and quantitative methods does help us to develop an explanatory narrative underlining the transition from livelihood to accumulation harvesting in Senegalese sardinella fisheries.

⁵⁵ Recall also that previous informants stressed the importance of gillnetters as collateral and also the practical roles they play in transportation for Niominka families residing in the Sine-Saloum delta. This suggests that records of the number of boats fishing means that these very same boats are simply being re-purposed when not harvesting fish.

**Figure 4.2: Fishing effort by gear type,
1997- 2011**



Sources: Thiao et al. (2009), CRODT (2011) and Thiao et al. (2012)



Sources: Thiao et al. (2009), CRODT (2011) and Thiao et al. (2012)

If, on the other hand, we analyze these figures with the purse seine fishery in mind, we notice that fishing effort has been generally stable, but landings have increased significantly over the 1997 to 2011 period. Yet Dème (2012, 11) reports that the length of purse seines (i.e., the nets) have doubled from 200 to 400 meters since the early 1990s. This means that even if "fishing effort" (here, as in the grey literature, defined in terms of fishing outings) has not significantly increased, the amount of capital invested in the fishery has augmented, intensifying fishing effort if we use this alternate proxy. The capitalization of the fishery and relatively stable number of boats also confirms the idea that intensification of fishing effort and indebtedness go hand in hand. If boat numbers are not growing drastically, but fishing trips are, then men who enter contracts with wholesalers may very well be attempting to harvest more to reimburse creditors until the

point where a purse seiner is repossessed and reallocated to another aspiring boat owner. Put another way, purse seiners, as symbols of status and social power, are likely circulating among a pool of aspiring boat owners who are willing to take out large amounts of debt as they try their chances to strike it rich. These findings suggest that not all men who enter into contracts with wholesalers succeed in becoming sole proprietors, though they may accelerate their efforts to harvest more and more fish as they try to do so. At the very least then, these statistics do not rule out the possibility that different systems of compensation and financing between the gillnet and purse seine fisheries have important implications for harvesting behaviors.

4.3. Conclusion

This chapter has argued that understandings of increased fishing pressure are only deepened by a close examination of fisherfolk's motivations to own boats as a distinctly gendered process. The desire to mark a masculinized rite of passage and to support one's family from the sea is the aspiration of many young men whose goals are manifest in individually owned pirogues. The purse seine, because of its relatively high returns to capital, promises to provide large gains to those who can attain sole proprietorship. When viewed as part of the transition from livelihood to accumulation harvesting, the rise in the number of fishing outings by boats outfitted with this gear type also re-introduces the theme of a wider shift in fishing economies from a collectively to an individually owned boat. One of the key takeaway messages then is that systems of compensation for the gillnet fishery align more closely with goals of social reproduction, whereas the purse seine fishery presents relatively more opportunities for accumulation to capital. But this

statement should be qualified by the fact that the data clearly shows that these opportunities for accumulation are unevenly distributed, based on boat owners' reliance on outside capital, catch abundance and ability to negotiate fish prices with their creditors.

Contextualizing strategies for becoming a boat owner in the array of financing options available to mere fishers also helps us to start to understand why the number of purse seiners has not drastically increased over the 1997-2010 period, though the number of outings and landings associated with this gear type have. Many fishers who take out loans are not able to repay their debts, since they feel compelled to become more indebted in order to cover fuel costs associated with attempting to generate the revenues needed to make the original repayments. This puts "boat owners" in a bind; they cannot repay without fishing, but fishing requires taking out more debt to be repaid. The potential of catching higher value species also motivates decision-makers to keep accumulating debt in the pursuit of wealth and the social status it will ultimately bestow.

At the same time, wholesalers are making productive investments by leveraging young men's aspirations to ensure steady supplies of fish in a context where high demand prevails and supplies are unreliable. This virtually guarantees revenues for wholesalers when they are able to drive down prices paid to their debtors, since they are able to sell what then become their products at relatively high prices. Though their financial interests are not always promoted, men from agricultural areas are easily enrolled in such a system because it quickly confers on them the social status of "boat owner" before debts are paid off. Those who are able to land large quantities when prices are high quickly acquire fishing materials. The lucky are few, however, as the statistics showing nominal growth

in the number of purse seiners show. The more striking statistic is the rise in the number of fishing outings. This suggests that boat ownership per se is not the driving force behind increasing pressure on the sardinella fisheries. Rather, in making future sales the hinge on which these contracts are based, indebtedness intensifies fishing effort. This is because wholesalers lock so-called boat owners into arrangements where they must continue to try to produce until either accounts are settled or the latter become insolvent.

Yet recent economic and environmental studies indicate that the potential for purse seiners to productively absorb labor and capital may be lessening. Dème (2012, 19), for example, shows that over the 1993-2011 period, returns on investment in the fishery declined from 82.8 to 24.8%. This is likely a result of multiple factors, including the rising costs of equipment, fuel and the widely repeated complaint that the sea is less bountiful today than even five years ago. One indication of declining catches at home is the extent to which Senegalese purse seiners engage in circular migration abroad as an adaptive strategy. Since 2001, Mauritania has allocated between 250 and 270 six-month fishing licenses to purse seiners originally based in Saint-Louis (Thiao 2012, 305).⁵⁶ While this spreads financial capital and extends the radius of migrant laboring, it is also highly contingent on diplomatic relations between the two countries. The granting of fishing licenses is negotiated yearly, and it is not guaranteed that this will be a site for distant-water fishing in the future. But this way of coping with a downward trend in catches and/or profits at home demonstrates the effectiveness of Harvey's notion of a spatio-temporal fix. Understanding the changing flow of money from the countryside to the coast to Mauritanian waters in this way helps us to understand how agrarian change, instigated by the interests of foreign capital in making loans to Senegal in the wake of the

⁵⁶ See also DuBois and Zografos (2012, as cited in Belhabib et al. (2014)).

1970s oil crisis, has worked to make fishing the next, if not last, resort for unemployed youth. Arguably, the unprecedented numbers of African migrants currently engaged in trans-Mediterranean migration has become the next frontier for those seeking alternative livelihood strategies now that farming and fishing have become less reliable. Regardless, concluding that the purse seine fishery now needs to broaden in scope beyond Senegal's jurisdictional waters underscores that resources are finite, substantiating the claim that there are economic and environmental limits to capital accumulation.

Before transitioning to the next chapter, I would like to clarify what labor and capital mean in the context of Senegalese sardinella fisheries. In the gillnet fishery, these roles are generally clear cut, since fishers tend to only become boat owners once they have saved enough money to make initial investments. In the purse seine fishery, who the boat owner is murkier. As Gerber (2014) argues, class relations tend to lay more along creditor/debtor lines than along proprietor/employee lines in rural areas. In light of the data presented here, we can certainly appreciate the extent to which wholesalers exploit "boat owners" who are owners in name only until they are able to pay off all debts. But I would like to accentuate the fact that classed relations are illustrated in both sets of social and economic relations of production. For instance, when a "boat owner" fully owns the boat, class processes are best illustrated by the proprietor/employee relationship. Yet when a "boat owner" is still paying back his debts, then looking at the creditor/debtor relationship may be more salient. This substantiates the argument that the wage relation cannot be used as a proxy for capitalism in all instances. Rather, understanding class as a process distributing value in place-based and globally interconnected ways is one example of how the category of "men" can be differentiated to include diverse actors. In

other words, the desire to be a boat owner is deeply gendered and as such, is a necessary (but arguably not sufficient) component for appreciating the expansion of fishing effort in Senegal. The next chapter will build on the working definition of capitalism developed here—that is, as a historically specific process that produces wealth in such a way that enhances social and economic inequalities among and between men (and women).

5. Are women and men in the same boat?

Competition for access to raw material leaves no room for sentiment. Financial capacity has become the decisive factor in accessing raw material (Ly 2008, 130).

Building on the themes of structural change, technology and work as being distinctly gendered processes in the Senegalese fishing economy, this chapter will engage with long-standing debates on intra-household bargaining to introduce and analyze a series of gendered conflicts visible at the community scale during the fieldwork period. In early 2014, actors in the fishing sector learned that an industrial factory producing fishmeal and frozen fisheries-based products for export was being constructed in Joal, which catalyzed a widely publicized controversy covered in the local, national and international media. In anticipation of this imminent economic change, I consider to what extent fisherfolk's interests diverge according to gender.

This analytical choice reflects the empirical context I studied where people gendered as female and male maintain separate purses, customarily occupy different roles in the fishing sector, and so sometimes have conflicting interests. It also reflects the ways that fisherfolk positioned themselves—fish processors (*femmes transformatrices*) as manifestations of motherly respectability and boat owners as (male) household heads trying to get by—in public displays of frustration over the difficulties involved in accessing what was once considered “trash” fish.

These discursive politics speak to the contemporary importance of analyses critiquing the twin ideologies of maternal altruism and benevolent dictators(hip) shaping neoclassical conceptualizations of the household. They also attest to the symbolic relevance of conjugality as an organizing unit of production; in Senegalese fisheries, a fisher's female kin theoretically hold claims to at least a portion of their husbands' catch

(though these types of so-called contracts are subject to creative change). But here, by drawing on survey data, I argue that thinking about *femmes transformatrices* as fishers' wives (*épouses de pêcheur*, e.g., Mboumba 2011, 1) has largely become anachronistic.

Moreover, in contrast to studies emphasizing the conjugal unit as the crux of social organization within household economies, I highlight the importance of inter-generational sets of rights and obligations that overlap with those established between marital partners. In many instances, the most vocal *femmes transformatrices* are women whose husband-fishers are now retired, and so acquiring inputs for processing ventures no longer rests solely on marriage. Such an analysis recalls African feminisms, including, for example, the works of scholars working among the Yoruba in Nigeria where seniority rather than gender per se has been fundamental to societal structure (Amadiume 1987, Oyewùmi 1997). Yet seemingly domestic quarrels are still important to consider because, as a rich tradition documenting peasant economies undergoing rapid agrarian change in West Africa has so clearly shown, family politics *are* production politics (Carney and Watts 1990). Moreover, as we will see, fisherfolk contested economic changes in just these terms. Despite differences among women and men, *femmes transformatrices* and boat owners put up unified gendered fronts.

This subset of fisherfolk's emphasis on gender division is also important to unsettle because it arguably obfuscates a younger generation of women's adaptive strategies to anticipated and recent changes in place-based production systems. This more nuanced approach taking age into consideration reveals a continued interdependence among (at least) some fishing couples and the persistence of fishers' wives' entitlements to fish despite *femmes transformatrices*' eroding access to sardinella. This may be because

fishers' wives are no longer primarily artisanal processors but have taken up new roles that allow them to attain economies of scale given the limited amounts of fish their husbands can offer them at family discounts. Fishers retire at an early age and so in many instances, the older generation of *femmes transformatrices* are in fact mothers or other senior kin of those actually catching fish and making sales-related decisions. These findings not only demonstrate the importance of a gender analysis to contemporary production systems in the region. They also build on and extend developments in the feminist literature emphasizing how multiple forms of social difference intersect to form a person's everyday experiences and, in this case, access to natural resources.

To sum up, my argument is three-fold. First, the sheer projection of a future with more factories is productive of gendered economic subjectivities that reveal how stakeholders wield the symbolic resources at their disposal to try to sway public opinion in their favor. Second, overt gendered conflict can conceal continued intra-household collaboration when viewed from a multi-generational perspective. Third, gender is mutually constituted with shifts in sardinella commodity chains. But, I might add, not in the same way by all actors. It is important to emphasize that the most vocal *femmes transformatrices* are decidedly senior women who have secure fallback positions should their plans of advocating for their gendered interests backfire. Weaving together the insights of previous studies on gendered development, environments and change, this analysis is then an attempt to respond to the call in the "new" feminist political ecology literature for de-stabilizing binary thinking, by illustrating the interlocking factors that affect how fisherfolk can enact being, and continually become, a woman or man with reference to a particular natural resource-based economy.

5.1. The case of the phantom factory

Covered by the Senegalese media on television and in the press in the early months of 2014, *femmes transformatrices* organized a day of action in protest of the establishment of a Russian factory planning to produce fishmeal and frozen fisheries products for export in Joal. The factory in question, at the time little more than an empty field enclosed by twenty-five foot cement walls not far from the landing site and thus something of a phantom in the popular imaginary, elicited strong responses from *femmes transformatrices* who learned about the initiative only once the land for the factory was sold and construction had already begun. Symbolic of their not being consulted by political authorities in decisions that directly affect them, they perceived the factory, named *Flash-Africa*, as posing a threat to their ability to access the fish needed to make their businesses function.

Wearing red scarves to show their discontent, approximately two hundred *femmes transformatrices*, piece-rate workers and community leaders assembled at the Khelkom processing site to present their case. As quoted by Martine Valo in the French newspaper, *Le Monde* (January 30, 2014), the women's president put their concerns this way:

The Koreans arrived five years ago but at first, they were only taking ribbon fish (*cymbium*), which did not bother us. But now they buy fresh sardinella, and what are we supposed to eat? The Russian factory wants to produce 46 tons of fishmeal each day; this will require an input of 460 tons of fish, whereas in Joal fishers haven't landed more than 200 tons per day since 2010! This will kill us!

Underscoring the fear that such a production capacity would squeeze artisanal fish processors out of business, the president goes on, as cited by Waly Senghor of the Senegalese Press Agency (March 18, 2014):

If this factory sets up operations, it will monopolize all the fish coming from Joal-

Fadiouth and the surrounding areas. As it evolves towards a market where fish is sold to the highest bidder, it will be the end of artisanal fish processing in the whole Petite Côte region... This factory wants to take all the fish that we are used to eating on a daily basis, the fish that is the centerpiece of our national dish of fish and rice (*ceebu jën*), and take it to feed animals instead !

Together, these comments highlight a number of issues. First, foreign investment in Senegal's industrial fish processing sector is rising. These enterprises are producing commodities for export and using fish caught by the artisanal fishing sector to do so. This pattern, of export factories relying on pirogue fishing, is not new as Chapters 1 and 3 demonstrate. Senegalese artisanal fishermen are among the primary producers for global commodity chains moving fisheries products from West Africa to Europe, East Asia and North America. This integration means that fishing practices and supply arrangements cannot be fully understood at the local scale. In other words, the president alludes to wider contextual influences bearing on the community that must be accounted for in understanding the case of the phantom factory.

Second, the women's president's remarks pinpoint the specialization of foreign investments that are rising: export factories incorporating low-value species into their operations. Some establishments are even making sardinella the focus of their activities. Between 2011 and 2014, eleven Chinese, Korean and Russian factories producing fishmeal for aquaculture and livestock rearing in Europe and Asia were established along the portion of the Senegalese coast lying between Kayar to the north and Joal to the South.⁵⁷ These factories do incorporate by-products of artisanal processing, but must also use a certain proportion of unprocessed sardinella and other fish to make fishmeal and oil

⁵⁷ As reported by Martine Valo in *The Guardian* (18 February 2014), "Senegal fears its fish may be off the menu for local consumption".

of high enough quality to sell in the most profitable international markets.⁵⁸ This means that *femmes transformatrices* and fishmeal processing factories are in many instances after the same inputs.

Third, the President deftly links this shift to the issue of food security in her rhetorical move “and what are we supposed to eat?” If fish products’ exports are generally good or bad for the food security of the exporting country is of public concern in Senegal as well as one that has been the subject of scholarly and policy debate. Supporters argue that exports generate foreign exchange that can be used to buy larger amounts of low-value fish to feed the population of the exporting country, thus enhancing food security. In contrast, opponents contend that engaging in trade with wealthy countries brings little to no benefits for the poorest of the poor in developing countries since export companies do not reinvest profits in the communities providing fish for international markets. In their overview and contribution to this debate, Béné, Lawton and Allison (2010) argue that in light of the existing trade networks for dried and smoked fish in sub-Saharan Africa, intra-regional trade would enhance food security by providing income for processors and providing affordable protein to consumers. As they put it: “the debate, therefore, does not lie in whether ‘fish trade is good or bad’ for Africa, but on the *type* of trade that is appropriate for its population and economic development” (ibid., 947). The state of this debate in the literature does not yet reflect the president’s particular concern with foreign investment that is placing new industrial demands on low-value fish, however. Destined for fish farming and livestock rearing, sardinella is quite literally being transformed into higher quality protein for cosmopolitan elites, threatening

⁵⁸ Unprocessed fish that factories use to make fishmeal is chosen according to price, which means that this usually includes the fish that is otherwise not fresh enough to be sold directly to consumers.

supplies for the artisanal processing ventures that help feed the West African sub-region. Notably, *femmes transformatrices* are also wielding a discourse reflecting historical developments whereby, in the wake of the introduction of African commodity and export markets, women have assumed much of the responsibility for family food consumption as men have become preoccupied with crops for sale (e.g., Rogers 1980, as cited by Whitehead 1981). *Femmes transformatrices* are then implicitly emphasizing a livelihood domain that has come under their control as a result of the oscillating nature of the conjugal contract (cf. Guyer 1988, 172). These women suggest that boat owners' desire to sell to the factory is part of a longer process that has resulted in women having to intensify their labor (and here, capital investments) to maintain family nutritional security (see also Carney 1993).

Fourth, in invoking words such as “monopolize” and the particular phrase of “the end of artisanal fish processing,” the president is projecting a sort of futuristic pessimism where women closing up shop is all but a foregone conclusion. In her vision, higher demand culminates in a process whereby *femmes transformatrices* are priced out of bidding wars. This echoes the literature on fishing economies and globalization, which suggests that as niches in supply chains become more profitable, and price mechanisms become more central to social relations, women tend to be squeezed out of historically female-dominated occupations. The president's characterization of this eventuality as “a market where fish is sold to the highest bidder” is telling too, as she associates it with the end of artisanal processing in the region, implying that *femmes transformatrices* cannot afford to compete with other, relatively well-financed actors. This suggests that a prevailing moral economy has hereto undergirded the exchange of fish: this economy of

relationships has, in turn, helped construct family ties among fisherfolk. Now, these very ties will shift if, as the processors suggest, economic rationality comes to replace kinship-mediated exchange. This points to the importance of interrogating the changing relationship between the household and the firm, as well as fisherfolk's contestations and adaptations to this change.

5.1.1. *The municipality's response*

Accompanied by a key fishing elder in Joal, I went to the mayor's house one morning where there was a planning meeting for a press conference that would present the municipality and boat owners' response to the well-publicized *femmes transformatrices*' protest. I was ushered into the mayor's living room where a gathering of mostly gray-haired men clothed in colorful caftans, sat on plush couches. Among them were local authorities, including neighborhood representatives to the town council, male fishing elders and wholesalers in the city.

After briefly introducing my research to the mayor, his deputy—the only man wearing Western dress and sporting a smartphone—explained that the factory's aim was not to kill artisanal processing operations in the city but to complement them, emphasizing that the factory had two production goals. The first was to buy high-value demersal species (*nobles espèces*) that would be cleaned, filleted and sold in export markets, and the second was to buy low-value fish and discards to make fishmeal. In some cases, the factory would even buy the by-products of artisanal processing such as heads, scales and guts as a part of fishmeal production, giving *femmes transformatrices* an alternative income stream.

The mayor interjected that the factory wouldn't be able to pay more than 3,000 cfa

per case of fish whereas *femmes transformatrices* pay 6 or 7,000 cfa per case. He explained that these price differentials meant that the factory and the *femmes transformatrices* would not be in competition with one another. Moreover, the factory would create over 150 jobs. The directors also promised to install underground piping in the neighborhood adjacent to the factory so that it wouldn't flood in the rainy season. As part of their agreement, they also promised to renovate city hall and build a daycare center in Joal.

These perceived benefits of the factory echo statements the mayor made in the press, specifically his view that the women's president's forecasting of the end of artisanal processing was an exaggeration since the factory would not only buy fish landed in Joal's port but from throughout the country. When asked what would happen if the factory opened and fish processors complained about a lack of fish and work, he insisted that it would not be due to the factory. Instead, "it (would) be because there is no longer a lot of fish in the ocean."⁵⁹

From the perspective of the municipality then, the factory would bring more benefits than disadvantages, especially in the form of community projects that the city had trouble financing on its own. Moreover, according to government representatives, the *femmes transformatrices'* fears were overblown. The factory would gather supplies from throughout fishing sites in Senegal and not monopolize what would be landed in Joal. There would be plenty for everyone.

On the crucial issue of prices, if the factory were to operate as it promised, it would still be in boat owners' interests to sell to *femmes transformatrices* when there was

⁵⁹ As reported by Martine Valo in *Le Monde* (30 January 2014), "*Au Sénégal, la ruée des Russes et des Asiatiques sur la pêche artisanale.*"

not enough fish to drive prices down to the 3,000 cfa threshold. This means that there would not be direct competition between the *femmes transformatrices* and the factory (though the processors clearly disagreed).

Lastly, the mayor makes an interesting rhetorical move by framing *femmes transformatrices*' problem of not accessing enough fish as fundamentally about scarcity (i.e., there not being enough fish in the sea) rather than about distribution (i.e., the evolving set of actors competing for "surplus" fish). This effectively de-politicized the issue, masking the municipality's strategic choice to authorize building in Joal, by deeming it irrelevant in the face of the well-worn discourse of overfishing in Senegal. Overall, from the comfort of his living room, the mayor's tone was dismissive of *femmes transformatrices*' concerns. But it is noteworthy how quickly the controversy scaled up to the municipality, becoming the focus of city-wide politics and not just within the fishing community for weeks in early 2014. The women's president of Khelkom had mobilized enough support in the court of public opinion to force the mayor to address her substantive grievances.

5.1.2. *Boat owners take the bait*

Approximately three weeks after the *femmes transformatrices*' day of action, boat owners organized their own special event, also inviting the press, to express their support of the *Flash-Africa* initiative.

Making my way from the port along the beach, passing the factory construction site as I headed towards the sound of drumbeats, signaling the presence of the event, I arrived early and sat down in the shade of one of two tents. I recognized the man sitting next to me as a boat owner who participated in the household survey I had conducted in

his beachside neighborhood about six months earlier. I asked him what the white strip of fabric tied around his hand signified, and he explained it was to express support for the factory- specifically, he hoped that it would stabilize prices for fish. The day before yesterday, he told me, *yaboy* was 7,500 cfa per case and then yesterday it fell to 2,500 cfa per case. In contrast, the factory will pay 3,000 cfa per case even when there is a lot of fish, driving up prices for fishers, and allowing them to reap larger profits. This will introduce some competition with *femmes transformatrices* who want to pay 500 cfa per case so they can have profit margins of 100%, he explained.

As the crowd gathered, the ceremonies began with music and dancing that would stop for each speaker and then pepper the interludes between them. Alhassane, a man in his sixties with a broad smile that revealed missing front teeth was the boat owner who had spearheaded organizing the event. He took the microphone and began:

We, the fishers, are weary from overwork. They (i.e., the *femmes transformatrices*) want to be able to advocate for their interests but they don't want us to have any. We are the ones who go to sea and die out there. It is our gear that is destroyed and no one comes to our rescue... There will be people who will say that the turnout for this event was low but if they watch the evening news they will see that there are a lot of important men (*kilifa yi*) seated here in support of our cause... We must pray together for the success of this undertaking and not heed what our detractors say. We must listen to what fishers have to say. The people who say the factory should not continue its work here are backwards because the owner has already started construction and no one will be able to destroy what he has already done.

When introducing an event in Senegal, it is not out of the ordinary for the first speaker to spotlight certain guests in attendance who might lend credence to the importance of the event. But it is noteworthy that in this instance Alhassane is drawing on embodied figures of male authority in such a way that their presence trumps the overall number of attendees. Gender politics are at work at other moments in his speech too. For example,

fishers' interests are legitimate because they do work that places their lives at risk; they perform manly roles that, presumably, women cannot. These invocations of authoritative and heroic masculinities are the starting points for the ensuing discussions. For instance, the representative of the neighborhood adjacent to the new construction began:

We must pray so that fishers have something to show for their efforts. Fishers are the ones who die at sea and when this happens, *keccax* processors don't even take the trouble of sending someone on their behalf to present their condolences (*né la siggil diggale*) ... The factory is in everyone's interest thus we should pray for its success...

Again, we see the theme of risking one's life as establishing the moral high ground for subsequent arguments in favor of the factory. But the speaker is provocative in the conveyance of his message. Not only are capital investments (i.e., gear) and lives on the line, but women do not make the bare minimum effort to pay their respects when a fisher passes away. This amounts to an egregious insult: a gross belittling of the valiant efforts involved in extracting fish from the sea in precarious open-air wooden boats. Doubtless, *femmes transformatrices* would have no business interests to speak of if it were not for primary producers. The least these women could do is take symbolic steps to acknowledge the sacrifices that these brave men make. He continues:

If we made *keccax* in the past it's because fish was already rotting before we landed, and no one wants to buy fuel to bring back rotting fish. Spoilt fish would also be transformed into fermented fisheries products (*guedj*). Fish that was left unsold would be made into *keccax*. So no one wants to buy fuel if it's only to be left with unsold or rotting fish that you end up practically giving (*wanteer*) to someone... (even if) you want to honor that person and they pray for you in return.

What this quote confirms is the historical importance of surplus production, defined as fish not fresh enough or too plentiful to be sold, for artisanal processing in *La Petite Côte*

region. This view does not, however, address what happens when the production system has evolved in such a way that leaves no leftovers for artisanal processing. It also reveals an interesting framing of access regimes in this context. On the one hand, there is a way of the past where *femmes transformatrices* were able to harness the fact that they knew the fish they did not buy would go unsold. Boat owners, in turn, framed ensuing exchanges of fish at low prices as gestures of their generosity. There was thus a structural reason and a moral logic to supplying artisanal processing ventures. Gluts in fish supplies allowed *femmes transformatrices* to access inputs and boat owners to cultivate a sense of righteousness in distributing fish to actors who, presumably, they had close ties with since they would “pray for them in return.”

On the other hand, the fishers’ aspirational future is one where these prayers are cashed in for profits. This realm of possibility is one where expenses for buying fuel to propel larger boats longer distances would be adequately compensated. Relationships of reciprocity with family members, friends and/or neighbors are not part of this picture of progress. Instead of well wishes, fishers want calculable forms of recognition for the fruits of their labor. We don’t work for free, the fisher’s words seemed to echo amongst the by then throngs of people who had been drawn to the performances and the sight of cameras and journalists from the capital. There are costs, both social and financial, that must be accounted for.

Taking the stage next, the fishermen’s official spokesperson took up the issue of “practically giving” away fish as follows:

Those people who say they don’t want the factory were the ones who bought cases of fish last night for 1,500 cfa. Do you think that’s the way it should be ? That’s not the way it should be when the (real) cost of a case was at 7 to 8,000 cfa. So be reasonable and logical and speak the truth for goodness sake. Fishers

are weary. We will no longer accept walking or working underneath them (i.e., the *femmes transformatrices*). That way of doing things is over with. They may have deceived our grandfathers. And they deceived our fathers. But us, the young generation, we will not accept it. It is done with. This is the message of our event.

There are three gendered moves at play here that I would like to unpack and bring to the surface. First, the speaker positions himself as the spokesman of reason and logic as opposed to emotion, which has historically been considered a female domain. This lends credence to his remarks. He is not a hysterical woman, yelling into a microphone, chaotically waving her hands at a camera. He is composed and judicious, having carefully considered the issues to arrive at the most sensible conclusion. Second, “walking or working underneath” (*marcher dessous*) is an interesting choice of words, since conceptualizing fishers as being held beneath *femmes transformatrices* unearths a sense that things are not the way they are meant to be. Historical regimes of accessing fish have emasculated men to the point of exhaustion and they will no longer stand for it. The speaker grounds his rationale for change by explicitly citing unequal power relations (i.e., submission/ dominance) while implicitly citing the conjugal contract: the implication being that a fisher’s wife should not hold the upper hand. Third, the use of “deception” is evocative because it implies a deceiver with a motive and men deceived (i.e., “our grandfathers”, “our fathers”), further polarizing the debate into one of a mythical fishing couple airing the dirty laundry of their marriage writ large. Perhaps a Wolof proverb helps elucidate his sentiments: “Ask God for help but make sure to plow your field too” (*yalla, yalla bey sa toll*). Or, in a reformulation more germane to the fishers’ cause: one cannot eat prayers when staring at an empty, family-sized dining bowl.

5.1.3. Family value

Taking a step back from these heated accounts from both parties, what seems to be fundamentally at stake is a contested definition of what it means to be part of a fishing family in Joal today. *Femmes transformatrices* feel entitled to fish even though they cannot bid as highly as others. And them cashing in on these entitlements, so to speak, has left boat owners feeling deceived by those closest to them not to mention financially downtrodden.

Context certainly matters. As a site of urbanization, spatial reorganization of processing ventures, improved preservation techniques, capital investment in the sardinella fishery and now fishmeal factories, there are a diversity of factors bearing down on how fisherfolk attain the ability to benefit from the natural resource under question. Until recently, fishers landed more than could be absorbed by existing cold chains. This allowed *femmes transformatrices* to identify low-cost inputs and generate profits within a framework that valued their roles as mothers and their propensity to add value to resources in ways that improved family welfare. For example, as detailed in the third chapter, fisher's wives historically transformed what could not be sold into foodstuffs that supplemented their family's protein intake during the lean season. This benefitted the collective household, defined here, as those sharing the same dining bowl(s).

As the production of preserved fisheries products has expanded in scale and the distance between producer and consumer has grown, however, this domain of female production has evolved in such a way that family benefits are perhaps not as immediate. Whereas in the past, a fishing family consumed the tangible fruits of its members' labor as a group, today, commercialization of the sector has effectively meant that boat owners

and *femmes transformatrices* have to balance their need to provide for their families with the viability of their own businesses. Fishing families may eat some of the fish caught and processed by their members, but income generation, like in agricultural areas, has become more central to everyday survival. Hence, the terms of trade has become a key articulation of these seemingly irreconcilable sets of vested interests.

When I asked the woman's president of Tann Ba (the second artisanal processing site in Joal) her views on the current impasse, she brought some nuance to the debate, framing it in the following terms:

What is in fishers' benefit is also to our benefit, for us, the mothers of fishers. At Tann, each processor (*lakkkat*) is the mother of a fisher, or has a husband who is a fisher, or maybe is the father of a fisher thus we are not against the fishers because if we were, we would be against ourselves. If fishers don't bring fish, we will have nothing to process. Them too, if they bring fish to us but we can't pay until a future date, they won't be able to go back to sea. Hence fishers and processors must work together because if fishers don't go to sea, processors don't make *keccax*. And if processors don't make *keccax* then fishers don't go to sea. Here in Joal, if it wasn't for us, the processors, and the Burkinabe and Guinean buyers, the fishers would have to dump their product when they came back from fishing. Because here, it's been more than ten years since we haven't dumped fish. Hence the processor and the fisher are in the same boat. We should communicate more so that we can work better together though. We (the processors) think that the factory will pose major drawbacks but if we are proven wrong- and there are instead advantages for the entire population—then we will have no issue with it (at all).

Here, this leader is making explicit the types of kin-based relationships on which the exchange of fish have been and are based. Processors tend to be related to fishers through marriage and parenthood. These are close ties that cannot be essentialized as financial transactions. They are social relations of care, solidarity (e.g., “we are not against the fishers because if we were, we would be against ourselves”) and economic interdependence (“the processor and the fisher are in the same boat”) that in many

instances are housed under the same roof—in a patrilocal society such as Senegal, adult sons tend to continue living with their parents even once they have married (Diop 1985, 147). Her comments also identify an important generational shift. Some *femmes transformatrices* used to be fishers' wives but are now fishers' mothers, suggesting that their fisher-husbands have since retired from the trade. This angle is noteworthy and one to which I will return in the next section. For the moment, it is important to emphasize the deeply rooted relationships of reciprocity at work; that a processor's success is intertwined with a particular fisher's speaks to a connection that cannot be reduced to a single price point.

Yet prices are what are at stake in the comments of *femmes transformatrices* and boat owners as publicized in the media. So how and why are these meanings important when it comes down to money? The remarks of Tann Ba's president give us a hint. "Them too," she says, "if they bring fish to us but we can't pay until a future date, they won't be able to go back to sea." This reveals another aspect of the hybrid gift-exchange system introduced by the boat owner underscoring the link between price discounts and well wishes. Selling fish to female kin was often on credit, which could put fishers in a bind if they had to raise funds to buy fuel and possibly make repairs before embarking on their next fishing expedition. For the moment, it is important to emphasize the relationships of trust involved in such transactions. This should not be confused with blind faith that a processor would repay. Rather, it connotes a belief that there were enough checks in place that if someone did not uphold their side of the bargain that they would in some way be held accountable.

The president goes on to emphasize the socially reproductive role that *keccax*

processing plays when she states:

Today, making *keccax* is beneficial for all of us (i.e., all of us involved in the fishing economy). Anyone who has children and other dependents, it is beneficial for them. The other day, (the President of the Republic of Senegal) Macky Sall said very clearly that if there is a situation that causes harm to God's children (*doomu adama*), whether it is a factory (on land) or a boat in the sea, we must make him aware of it by having a protest so that he can heed the message and help us.

Interweaving discourses of family and the nation, *keccax* processing is not just an investment opportunity for hypermobile capitalists hailing from Burkina Faso then. It is a way of life in *La Petite Côte* that has gained societal value because it has historically allowed processors to assume some breadwinning responsibilities in their households. *Femmes transformatrices* have provided an outlet for highly discounted fish, which may not go a long way to offsetting boat owners' rising operating costs in the immediate term. But, in helping provide for children and other dependents, including the elderly and those who are otherwise incapacitated from working, they actively participate in their families' upkeep. As the secretary of the association of *femmes transformatrices* at Khelkom re-emphasized, "here they count on the mothers to feed the family."⁶⁰

The question of whether women spend more of their income on providing for the nutritional needs of their families than men has been the subject of much scholarly debate, and it is not my intention to launch into the empirics of this well-documented discussion here. Rather, what I would like to emphasize is the strategic positioning that these women are assuming. It is quite possible that, following Perry (2005), Wolof men have historically been responsible for family food intake *and* that women have shouldered more and more of this responsibility as the political economy of rural

⁶⁰ As quoted by Martine Valo in *The Guardian* (18 February 2014), "Senegal fears its fish may be off the menu for local consumption".

production systems has shifted. In the fishing sector, one might hypothesize that as boat owners have become more indebted, *femmes transformatrices* started to use more of their business proceeds to support family consumption. And in turn, now that they hold this responsibility, must maintain a certain income level to meet this expectation.

This recalls Schroeder (1999, 8-11) who, in his critique of the maternal altruism discourse, argued that development projects guided by this principle ultimately shifted more household financial responsibilities to women, intensifying their labor efforts. Clinging to this ideology also masks the contingencies and shifting gendered responsibilities for family upkeep, which are crucial to document to understand the basis for processes of intra-household bargaining. In the specific case of Joal, I am not referring to an external intervention promoting certain envisioned gender roles. But the insight that maternal altruism starts to appear natural once political ecological factors have made it necessary still rings true. Moreover, emphasizing motherhood brings a moral authority to *femmes transformatrices*' business concerns that is conspicuously absent in the boat owners' public framing of the debate. Perhaps this absence of a male breadwinning discourse can be explained by the notion that it is so widely assumed that men are breadwinners that they do not even need to explicitly draw on it as a justification for their business interests as *femmes transformatrices* do. Or, maybe *this* is implicit: fish processors' emphasis on their roles in feeding their families implies that boat owners are not meeting their household financial obligations. In turn, boat owners' reference to practically giving away fish amounts to "legitimate default" (ibid., 46) on breadwinning, since low fish prices are at the heart of the matter. Regardless, contextualizing the income earner in gendered spheres of financial responsibility establishes an ethics of change; if

femmes transformatrices cannot keep their businesses above water then the well-being of the collective family is put at risk. Steps should be taken to prevent the end of artisanal processing. The Senegalese President even said it himself. The *femmes transformatrices* ' cause should be a priority of national concern.

5.2. Changing times, changing roles

Coming back to the generational angle introduced by the president of Tann Ba, it is worth considering how many wives of fishers are active in the sector and what their roles are as a way to assess if they need fish as inputs for their businesses. This will give us a sense of the extent to which the understanding that a fisherman allocates leftover fish to his wife still holds sway in practice if not as articulated in public gatherings.

In the survey portion of this research, boat owners were asked about their marital status, how many wives they had and what roles their wives played in the fishing economy, if any. The first major finding is that boat owners' wives' active engagement in the fishing sector cannot be assumed (see Table 5.1). Over one-third of married boat owners do not have even one wife who is involved in the fishing economy. Neither are all boat owners married. Of the 67 wives who are actively participating in the fishing economy, however, 59 need fish as inputs for their businesses to function. The remaining eight women either work as laborhands (*xoolikats*) on others' processing operations or perform a combination of cleaning and grinding fish in consumer markets.

Table 5.1: Boat owners' marital status and wives' involvement in fishing sector

	Number (n=)	Active in sector	Need fish as business input
First wives	82	42	35
Second wives	37	18	17
Third wives	11	5	5
Fourth wives	3	2	2
Sum totals	133	67	59

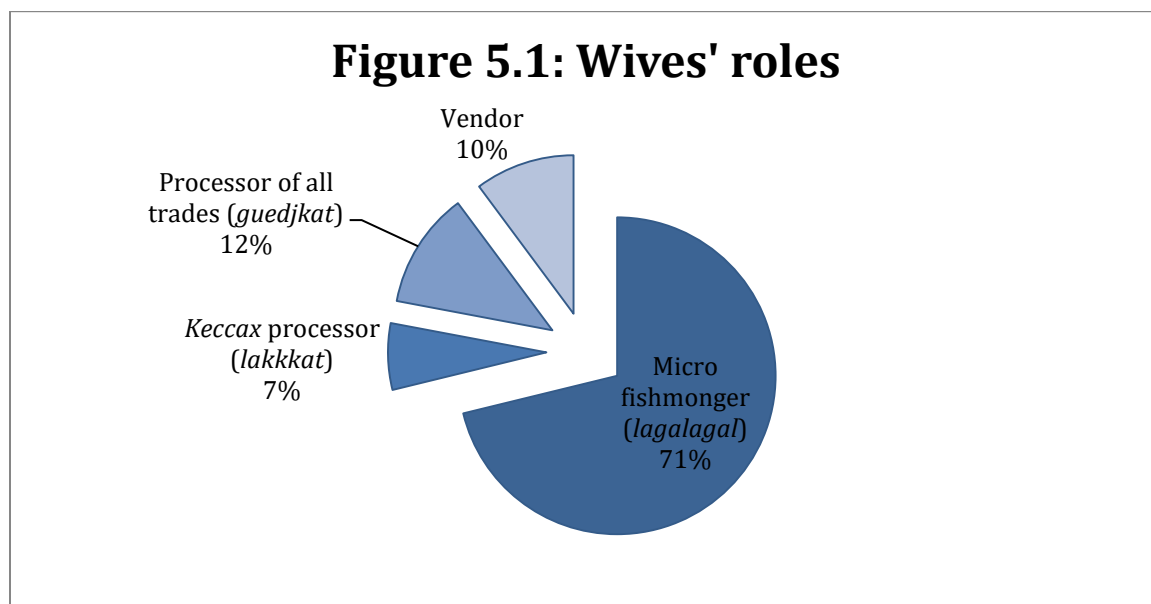
Source: Survey data

As for the 59 women who make a business that begins with buying fish, their roles are more diverse than the historical construction of fishing families would suggest. Wives do not only transform fish into preserved forms. This occupation only captures 19% of women accounted for in the survey.⁶¹ And if we look more closely at the sardinella supply chain, only 7% of boat owners' wives currently specialize in *keccax* production. This stands in contrast to the 71% who act as intermediaries in their roles as “micro” fishmongers (*lagalagals*) who collect small quantities of fish from boat owners, among others, and resell it to actors operating in local and regional markets.

Lagalagals buy fish from a diversity of actors, including, for example, the men who unload pirogues in exchange for a bucket or two of fish and the housewives and elderly men who occasionally come to the landing site to “beg” (*lajj téral*), which can also be understood as asking to buy fish at very low prices. They also buy fish from friends, kin and neighbors of fishers who came to the landing site to ask for gifts of fish to prepare as the main protein for lunch or dinner (*ndawal*). In a sense then they are making currency of other's social relations (as well as their own as we shall see shortly). These micro fishmongers by definition amass relatively small quantities of fish since they

⁶¹ Remember that *femmes transformatrices* is a general term describing women who make braised sardinella (*keccax*) and/or ferment other fisheries products (*guedj*).

do not have access to refrigeration and so must re-sell to *femmes transformatrices*, wholesalers or vendors the very same day.



Source: Survey data

In light of *femmes transformatrices*' argument that kin-based claims to fish are eroding, it may also be useful to look at the extent of commercial exchanges between boat owners and their spouses. Looking at *lagalagals* in particular may also give us some insight into how contemporary roles for women in the fishing economy are similar, or different, from those of yesteryear. Among the 42 *lagalagals* married to boat owners in the survey sample, 24% always engaged in commercial exchange with their partners, 26% sometimes did, 12% often did, 12% rarely did, and 26% never did.

One possible interpretation of this data is that the component of the conjugal contract requiring a boat owner to sell his wife a portion of his catch is no longer a strict requirement. An alternative explanation is that, as Senegal's fishing economy has become more integrated into global markets, some boat owners have started to specialize in high-value species that must exclusively pass through certified channels to meet international

export standards. That is, a new social geography has been produced within Senegal's highly mobile pirogue fisheries: some boat owners simply live apart from their wives for long stretches of time, making it practically impossible for them to sell and buy from each other on a daily basis. Though no comparable data is available for the pre-1995 period, the theory that *femmes transformatrices* worked with small batches of fish resonates with the case of the *lagalagals*. Findings show that when boat owners engage in commercial exchanges of fish with their micro-fishmonger wives today, 84% of those transactions involve fewer than five or less cases of fish. So even if some elements of commercial exchange have changed, the scalar dynamics of the industry have stayed the same.

The small sample size of the survey precludes making broader conclusions but these data do describe how a particular group of people in a particular time and place are engaged in commercial transactions. The major take-away is that the *femmes transformatrices* who raised their voices in protest of the factory may no longer be wives of fishers, suggesting there has been a significant generational shift in employment. They are now likely the mothers of fishers, some of whose daughters-in-law are now exercising their own marital rights to access fish. Yet *femmes transformatrices* would like to see the same terms of buying fish at discounted prices that they enjoyed as younger women to extend to the larger batches of fish they now need to keep their businesses running. And boat owners suggest that this is not financially viable from their standpoint. As a result of the limitations on the amounts that boat owners can sell at a family discount, processing may no longer be as desirable an occupation as it once was for junior women. But the practice of a boat owner supplying his wife with fish continues to influence product

flows. In making a business of dealing with small quantities of fish, choosing to be a *lagalagal* then can be seen as an adaptive strategy to changing market conditions. It is not that kinship does not matter anymore in the fishing economy. Rather, it comes down to a question of whose claims to how much of a resource allows them to do what with success, given the current political ecological context.

5.2.1. *Terms of engagement*

Looking at how *lagalagals* currently acquire fish from their husbands also sheds light on the terms of engagement governing fishing couples who co-habitate, specialize in the same species and choose to work together. Whether this set of fishers' wives are buying fish by out-bidding other actors is an important question in this analysis. If they were, it would buttress the *femmes transformatrices*' contention that the laws of supply and demand are undercutting long-standing relationships of reciprocity. On the other hand, if there were other elements at work, we might start to appreciate the complexity and diversity of kin-based claims that boat owners have to grapple with as they attempt to run profitable enterprises.

An interview with Ramatoulaye, a *lagalagal* who is married to a boat owner, emphasizes the importance of sourcing fish from different parties. She describes the chaos of the beach: pulling up her skirts to run into the water as a boat approaches, throwing her bucket into the hold to claim her space, and jostling with other women who do the same to out-bid them until she has gained the desired product. This strategy is just one that she employs, however, and pertains to boats for whom she does not know the owner. When her husband's boat lands, she explains that negotiations are qualitatively different, as illustrated in the course of the following interview:

ADT: In your opinion, is buying your husband's fish better or worse than buying someone else's?

PD: Buying your husband's fish is better.

ADT: Could you tell me why?

PD: Because if it is your husband's pirogue then no one else will haggle, it will only be you, alone. If your husband lands and someone else comes up and asks him the going price of fish and then sees you, they will say "excuse me, I'm sorry. It's your husband's boat, go ahead." Then, they'll let you really bargain with him, which is better.

ADT: So there's no competition (with other buyers)?

PD: No, when it comes to your husband's boat, there's no competition with anyone else. It's only you (and him).

ADT: Why would someone apologize to you if they didn't see you at first?

PD: They know that he's your husband. A husband and his wife are one. They know that they could strain what is between you so they stop bargaining right away and say "I'm sorry. I didn't know it was your husband's boat. I didn't see who the fishers were and I don't know them, which is why I was mistaken." And then they go on their merry way. Because the proceeds of the boat's catch aren't your husband's alone. Lots of times, there are men who come from faraway and aren't related to you or your husband in anyway. They don't live with you but they come and say that they want to work (on the boat) because they don't have anywhere else to work and they want to work with you. If a (young) man does this, your husband will look at him and take pity on him, telling him to go along with the kids and get in the boat to work. Now, if someone (approaches the boat as it comes in and) offers a (good) price, these newcomer fishers will tell the boat owner not to sell to his wife—that if he does, he will be practically giving it away (*wanteer ko*). That is why other people don't bargain (at the same time as the boat owner's wife). Because the person who offers a higher price in the earshot of the fishers who aren't part of the family make it difficult for the boat owner to sell to his wife. If he does, the fishers will say that he didn't sell it at the going rate. But if he doesn't, his wife will get angry with him. That's why they say "I'm sorry" because all people are not made the same.

This illustrates why one component of the conjugal contract remains especially important. One can assume that when fishing was a seasonal activity based on family labor, the distribution of fish to female kin could also be contested but for different reasons than today. Agricultural and pastoralist livelihoods have become less viable as drought conditions and the international terms of trade for key commodities have worsened. As a result, there has been a rural exodus to coastal areas in general and a movement of young Senegalese men into the fishing sector in particular. The changing labor composition of pirogue fishing means that a crew no longer equates to a family unit. This places strain on the privileged position between a boat owner and his wife—a relationship that is still privileged in at least some cases today—because different stakeholders in the fishing operation have different end goals. The importance of family belonging can also be seen in its converse: migrant laborers whose prerogative it is to receive the highest income for their labor. This is understandable given their transience. Unlike their rooted counterparts who cultivate and deepen long-term relationships of reciprocity *in situ*, these young men have no way of harnessing their “generosity” in order to persuade those to whom they had been “generous” to help them out, should they need it, in future.

These different positionalities—of fishers who are family members and fishers who are migrant workers—mean that boat owners have to strike a balance between keeping their wives, who expect to be able to buy fish at prices below “market” value, and laborers, who expect to make instant income, happy. Recognition of this dilemma does not seem, in this instance, to be eroding the conjugal contract entirely. Rather, it serves as yet another rationale for the importance of allowing a husband and wife to

negotiate the terms of their commercial engagement outside of the auction block.

Marriage is still respected as a key institution channeling access to resources and so much so that if someone inadvertently destabilizes it, they utter an immediate apology. This privileging of boat owners' wives in sales also gives us a better sense of the way things might have been for *femmes transformatrices* in their younger days.

5.3. Conclusion

This controversy was one that pitted *femmes transformatrices* vying for affordable access to fish against boat owners who hoped that the factory would raise their revenues. Of course, it is impossible to know what the impacts of the factory would have been on fisherfolk until it actually opened and even then, it would have been difficult to pinpoint its role in a fishing economy as dynamic as Joal's. Yet the factory never did open. In fact, at the time of writing, fisherfolk referred to it as the "factory the Russians were supposed to build" (*pers. comm.*, 2 March 2016). Without follow-up research, it is difficult to ascertain whether this outcome was a result of the women's impressive mobilization, a loss of financial interest on the company's part or something else. The factory then remains a phantom in the popular imaginary, though it was productive of gender politics that catalyzed widespread conversation about the state of Senegalese fishing economies.

The debate surrounding *Flash-Africa* is telling too because it showed what is at stake for *femmes transformatrices* and boat owners as the distance between producers and consumers of Senegalese fisheries products has increased and is increasing. *Femmes transformatrices* were scared of marginalization and boat owners were interested in diversifying whom they sell fish to, to enhance their bargaining positions. This projected

scenario was in contrast to a time remembered when fishers landed decomposing fish and were in a hurry to sell it, knowing that as it became more spoilt, the chances of having to discard it on Joal's beaches increased. This situation presumably formed the basis of other household negotiations, which may have, as suggested by *femmes transformatrices*' fears, tilted the balance in women's favor.

Fisherfolk have also framed the polemic of the phantom factory in such a way that categorized prevailing access regimes as based either on a moral or market economy. *Femmes transformatrices* and boat owners alike implicitly asserted that these were the two options in the exchange of fish, both groups presuming that there was a linear progression underway from the former to the latter. The difference lay in the female contingent considering the factory's opening normatively undesirable while the men of concern considered it a desirable goal. The two groups agreed that the establishment of the factory would contribute to rising prices of fish, however. Making price the issue hailed gendered economic subjectivities that fisherfolk assumed as they invoked discourses of what it meant to be part of a fishing family in Senegal.

Femmes transformatrices constructed the fishing family as encompassing the extraction and provision of inputs to a venture that transformed these perishable materials into a consumable form. Whether mother or wife, they emphasized, female *keccax* processors were located in webs of deep interdependence with fishers. From this perspective, the commodification of *keccax* then masked a specific model of social relations of production that had thereto been mediated by the ties that bind intimates sharing a single roof. Now that the notion of surplus production was being threatened by the entry of fishmeal processing factories like *Flash-Africa*, a key basis for this economic

interdependence risked eroding. If fishers had been able to consistently sell their products at 3,000 cfa per case then they would no longer need their kinswomen to transform waste into goods. This raised the question of whether women and men engaged in the fishing economy were still, or would be, “in the same boat.”

In the context of escalating fixed and operating costs for boat owners and processors alike, the collectively shared boat—whether figuratively as the nation or literally as the family pirogue—is arguably rocking, as fish production expands beyond the household and the prerogative to generate income in a context of segmented households becomes more important.⁶² For example, my findings suggest that female fisherfolk, in advocating for the provision of large amounts of low-cost inputs, may have been rocking the boat to such an extent that the hauls of the family pirogue could no longer accommodate *femmes transformatrices*’ needs. But upon closer examination, we cannot gloss over this shifting seascape in terms of women and men only: “women,” like “men,” are diverse categories representing a multiplicity of actors who are vested in the success of artisanal fishing and *keccax* production in different ways. *Lagalagals* are a case in point. Fisherfolk, regardless of gender, however, are all affected by changing political ecologies that appear to be making reliance on fishing more difficult. In this light, though intra-household politics articulate struggles over natural resources as the conditions of access shift, the overall surplus that family members are fighting over may well be shrinking (see also McLaughlin 2007). So the answer to the question I posed in this chapter is yes as well as no. Yes, women and men are in the same boat in the sense

⁶² See Kabeer (1994, 115-7) for a discussion of the implications of segmented versus corporate households for the allocation of income and access rights. Households that do not pool income, like those found in much of Senegal, are “segmented,” as opposed to “corporate,” which would pool income under the discretion of (usually) a patriarch.

that there are structural forces bearing on the ability of both boat owners and *femmes transformatrices* to benefit from sardinella. And no, fisherfolk's interests do not diverge according to gender in the sense that women are not just *femmes transformatrices*. They are also *lagalagals* who deal in smaller, and socially contained, quantities of fish who are largely content with the status quo.

This discussion raises the issue of sentiment versus financial capacity as driving access to raw product that opened this chapter. Price may increasingly be a key determinant in who is able to buy quantities of fish large enough to fuel processing businesses. But, as we saw in the interview with a fisher's wife explaining the norms surrounding small-scale exchange between marital partners, "sentiment" may still characterize some transactions. Boat owners, for instance, proffer generosity as an explanation for selling (or "practically giving away") fish to kin at low prices. And fish processors cling to notions of socially embedded exchange as they attempt to negotiate affordable inputs for their businesses. One might counter that the juxtaposition of feeling and rationality is misleading, since intimacy and the economics of everyday living often go hand in hand (and not just in West Africa, see Hunter 2010, Zelizer 2005). But the dichotomy is an interesting Senegalese take on the perhaps perpetually incomplete transition from a moral to a market economy in fishing economies. Echoing the selection from Ly (2008) opening this chapter, the polemic of the phantom factory suggests that there is, at the very least, a shift underway that is "worth naming" (Heynen et al. 2007, 4).

6. Seeing seascapes through the gender-environment nexus

Katz's (2004) discussion of capitalist restructuring in rural economies provides a useful pivot for synthesizing key findings with reference to the research sub-questions I posed in the introduction. For her, this involves three elements: the "interruption of household production, commodification and socioeconomic differentiation" (ibid., 31). This delineation will help me sew together empirical findings to address the overarching focus of this dissertation, namely how a waste product of Senegalese fisheries became a commodity that fisherfolk fight over in ways that re-iterate gender as a key marker of social difference in West Africa. This will sharpen my contribution to discussions on the work processes, changing technologies and expanding scalar dimensions of markets in rural production systems, by placing them in conversation with the insights of intersectional and performative theorizations of gender. Keeping in the spirit of understanding this case study as deeply entangled in my social position, and training in the Western academy, I will then discuss how my findings may have been different.

Next, I will segue to reflections on some of the similarities and differences that fisheries hold with agriculture, the overwhelming focus for scholarship highlighting the importance of gender to understanding how people interact with their environments. This is both an argument for the study of fisheries in the diverse field that is feminist political ecology and a provisional agenda for how future studies of fish production systems can build on what we already know. This is a connection that deserves more scholarly attention than I can devote to it in the confines of this chapter. Yet, I outline two themes that can provide material for thinking through how research in the two domains can inform one another: contract farming/fishing in the context of land grabs and the

importance of extending theories of access to include a consideration of economies of scale in the context of globalization.

Lastly, I argue that thinking through structural change in tandem with recent theorizations of gender as practice, performance, discourse and one, but not the only, difference, can deepen future studies looking at the gender-environment nexus. I do this by putting in tension the Foucauldian tradition of dismantling social truths with the commitment to praxis that many feminists share. I suggest that, through balancing the insight that gender is made, with data showing instances where subject positions can be effective bases for political mobilizing, scholars can create rich analyses of human-environment interactions. In short, through connecting this case study to these broader conversations, I posit a feminist theory of access.

6.1. Re-visiting the empirics

6.1.1. A short history

Tracing the changing notion of the family boat showed how the history of artisanal fishing cannot be adequately understood in isolation. Traditionally, fishing was a seasonal activity combined with agriculture that allowed coastal dwelling families to consume animal-based protein sources year-round. Harvesting for only a portion of the year allowed fish stocks to reproduce, and fishing was only done in areas that could be reached with the aid of paddles and sails. Fish were primarily used as foodstuffs for auto-consumption. A strict gendered division of labor prevailed where male kin fished and female kin prepared, preserved and sold what remained in nearby markets. Production was socially embedded in the institution of the household. Preservation techniques such

as braising, salting, fermenting and sundrying corrected for the seasonal availability of fish, by reducing perishability and promoting nutritional diversity for family members during the farming season.

The influence of the French in Senegalese fish production systems could first be seen in new market demands for fresh catch, which fisher's wives took to selling in colonial outposts. This created an incentive for men to harvest fish that would primarily be sold, in addition to the relatively smaller amounts that would feed their extended families. Monetization and technological change went hand in hand as the geographical scope of supply outlets multiplied. Savvy fishers, aided by motors introduced in the 1950s, would travel up and down the coast in search of the most favorable prices for their goods. This hypermobility was a first fissure in intra-household production. In these instances, female kin no longer enjoyed access to fish as reliably as they had before, when their husbands, brothers and sons did not venture so far.

The shift to fishing as a full-time, year-round occupation was reinforced by the introduction of the purse seine technology in 1973, which resulted in producing so much bycatch that after being discarded at sea, it washed ashore. Women's creative use of this waste exemplifies how they played crucial roles in commodification processes.

Fisherfolk are not only affected by, but also affect, the restructuring of sardinella-based economies. Fishing and processing thereafter evolved in tandem: processing absorbed production beyond what could be sold in fresh markets. Eventually in turn, this created an alternative income stream for fishers, allowing them to expand operations in some instances.

Yet changes in the political economy of fish production systems were not always mutually beneficial for fishers and *femmes transformatrices*. As beaches were cleaned up and processing operations moved inland, intermediaries stepped in at the first point of sale, since those processing fish were no longer on hand to greet boats. This drove up prices. At the same time, regional markets for *keccax* expanded with many exports going to Burkina Faso. As a result of the growing distance between the site of production and consumption, markets required a hardier product. Entrepreneurs thus adapted braising technologies to make a product with a longer shelf-life. The cement block ovens required to do so posed large start-up costs that only some *femmes transformatrices* were able to afford. Over the last twenty-five years, the proportion and number of women working in processing in Joal has gone down significantly. Many have taken up work as laborhands on others' operations, while some have exited the sector entirely. Male entrepreneurs have stepped in, taking up processing now that it has the potential to bring in relatively larger returns.

We should not generalize from the Joal experience to the whole country, however, as the contrasting case study of Kayar so precisely shows. There, women were able to regulate the transformation of fish as a near exclusively female domain. This shows the contingencies of political ecological change. Facing the same expanding scope of markets, changing technologies and work processes, women in Joal and Kayar demonstrate the diversity of consequences these influences can have on people's abilities to benefit from sardinella. Strategically invoking gender discourses and building alliances with local public officials proved an effective strategy in keeping processing women's work in Kayar.

6.1.2. *The sea is my only hope*

Understanding the introduction of the purse seine into Senegalese sardinella fisheries as a disruptive technology is important because it highlights how the distribution of surplus from fishing has evolved over time. The encircling gillnet predated the purse seine, and the Niominka still use it. This provided a living artifact of how fishers used to be compensated—a baseline in understanding the tendency toward the more efficient purse seine in sardinella fisheries today.

The comparison of these two gear types thus sheds light on the changing social and economic relations of production among men active in the fisheries. Understanding the relative distribution of surplus to capital versus labor provided a class analysis of the young men who migrated to coastal areas in search of work and the wholesalers who largely controlled flows of credit. Through taking out loans, some mere fishers were able to attain the esteemed status of boat owner. But in many instances, this designation was temporary, since the terms of repayment were, and often are, not in their favor. Boats are often repossessed due to inability to pay. The fear of this eventuality pushes many "boat owners" to continue undertaking fishing trips even when they must take out additional debt to do so. The promise of catching relatively higher-value species is a motivation for those desperately trying to work themselves out of debt in the interim, which ultimately places more pressure on the resource.

The rise of the purse seine was arguably then the most important technological development in the fishing sector in the 20th Century. Requiring large amounts of labor meant that the relatively big pirogues equipped with this gear were primed to accommodate young men migrating from the Senegalese countryside in wake of

agricultural decline. Financially providing for one's family, marrying and starting a family of one's own are key rites of passage into social adulthood in Senegal, regardless of one's age. In contrast to the encircling gillnet which institutionalized internal mechanisms for savings and ownership, the introduction of the purse seine represented an opportunity for migrant laborers to realize the dream of ownership despite them not originating from fishing families. But this de-linking of one's ethnic and geographic origins from one's life possibilities came to enroll labor in a system that was also more exploitative.

The recruitment of labor for purse seines was not just economically, but then socioculturally, understandable. The promise of one day becoming a boat owner amounted to a hegemonic form of masculinity specific to the fishing sector. Mere fishers, whose livelihoods articulated a marginalized expression of manliness, became invested in the purse seine fishery because it offered them the hope of attaining their life goals. Yet in contrast to the gillnet system where proceeds to capital and labor were relatively egalitarian, the purse seine fishery enhanced socioeconomic differentiation between those owning the means of production and those putting it to use. In contrast to the household economies literature that has largely concentrated on women, this chapter echoed scholarship emphasizing that the study of men and masculinities does not de-politicize gender or the feminist project (cf. Cornwall et al. 2011). Rather, when understood as a spatio-temporal fix, the purse seine fishery shows us how the effective dispossession of young men from their agricultural livelihoods, and the repurposing of capital, can spread out excess labor and assets in a way that continues to consolidate wealth in the hands of a select few. Understanding capitalist patriarchies as not only affecting women but also

marginalized men deepens class analyses by showing how the production and distribution of surplus are deeply gendered processes. One cannot fully understand fisheries without apprehending how men and masculinities are therein intertwined.

6.1.3. *Are women and men in the same boat?*

Women who historically gleaned what has been referred to as fish waste (*les déchets*) and transformed it into a commodity known as *keccax* were upset that their smoking, salting and sun drying operations might be in jeopardy when they learned that yet another factory would soon occupy a portion of their land-based seascape. The fact that their cause was picked up by the press so quickly and broadly demonstrates the acuity of women's concerns, their skill in handling the press as well as what their concerns stand for at the Senegalese and global level. Their mobilization also struck a chord with long-standing conceptualizations of *femmes transformatrices* as fishers' wives. Wives have been conceptualized as the primary recipients of fresh fish from their husbands in Senegal, which suggests that fishing households are still the key sites of fish production, consumption and exchange. But the data suggest that, like in the Anglophone tradition (i.e., "fishwife,"),⁶³ wife in this context is shorthand for a woman involved in the fishing economy more broadly. However, the use of "wife" language alludes to the notion of a conjugal contract, and one that can be cited and contested as people vie for fish and political gain. It is a discursive resource that, when wielded, sheds light on peoples' concerns for how political economic change has consequences for their everyday lives.

Privately owned purse seiners may also overshadow the family boat model today, but the latter is still very productive in the sense that it represents a set of practices that *femmes transformatrices* reference as they adapt to the realities of large-batch processing.

⁶³ See Burton (2012) who explicates the term's perjorative connotations in English.

The viability of their *keccax* businesses, they suggest, have relied on the family relationships that processors have had with fishers. These social ties strengthen the commodity chain that moves sardinella from sea to market. They want these favorable terms extended to the larger amounts of fish that they need to make processing viable. But it is an increasingly tenuous tie, especially given the generational shift that places most *femmes transformatrices* in a different position vis-à-vis active fishers.

To counter the family framing that *femmes transformatrices* were fighting to preserve along with their products, fishers made strategic moves by citing business interests such as the need to cover fuel costs. In contrast to *femmes transformatrices* who were placing value on the family as an institution that had mutual benefits for both parties, boat owners invoked kin as a hindrance to accumulating capital. Going away from home to make one's fortune is a common strategy for young men throughout the region: for example, among Ghanaian migrant fishers who find that participating in highly mobile pirogue fisheries allows them enough distance from family members so that they can actually save their earnings (Marquette et al. 2002). Intense social pressure to share earnings, or, in this case, to provide multiple people (i.e., mothers, fathers, wives) with fish at a family discount was thus conceptualized as a major limitation on men's financial success. In turn, this would have presumably constrained fishers' abilities to save the large lump sums needed to make substantial investments in, say, a house, new gear or a boat. In this light, one can start to appreciate why the amounts of fish boat owners give their kin tend to be relatively small. It is one strategy of negotiating the distribution of a resource to which multiple people have overlapping claims. A younger

generation of fishers' wives now occupy a niche (micro fishmongering) where they are able to attain small batches of fish, and still make profits.

Thus it appears that gendered relationships of reciprocity are not being wholly undercut by the market. Though fisherfolk are increasingly participating in exchanges that involve capital, their relationships have not become fully defined by it. The imagination of a capitalist future was productive of gendered economic subjectivities, however, as fisherfolk relied on discourses of family belonging to maintain claims to raw material for their business ventures. Concentrating on the performative aspects of gender identity that people assume to gain, maintain and control access to natural resources, this chapter showed how the meanings of this axis of social difference evolve in articulation with anticipated changes in the fishing economy.

6.1.4. Methodology

A common theme throughout this dissertation has been the use of multiple data sources, including interview transcripts, historical documents and survey findings. This approach follows in the tradition of mixing methods explicitly articulated by Rocheleau (1995) and elaborated by Nightingale (2003) in the feminist political ecology sub-field. Nightingale used multiple sources to interrogate why different data sets told different stories about community forestry in Nepal, arriving at a more nuanced analysis as a result. And Rocheleau incorporated quantitative data collection into her analysis of social forestry in the Dominican Republic, to make the experiences of female natural resource users more knowable to policymakers. Both studies are notable for using positivist tools to collect data in tandem with critical frameworks for research design and analysis.

In the spirit of these post-positivist approaches, I participated in women's work, which helped place me in the sardinella production system in a way that was easily understandable to many of those deriving their livelihoods from the harvesting, marketing and processing of fish. Survey findings also generated a source of descriptive statistics that I used to triangulate findings drawn from qualitative data. Semi-structured interviews helped me to understand the tensions between changes in fishing economies and intra-household production. Through focus groups, I learned about the motivations of youth to engage in fisheries and how their life goals articulated a form of hegemonic masculinity in the sector and, arguably, in Senegal more generally. Lastly, collecting documents facilitated the contextualization of these findings in the historical record. Reports, theses and statistical dossiers provided a wealth of information that I could compare and contrast with my working hypotheses as I moved through the drafting and writing process.

The amount of data I collected was facilitated by the time I spent in the field as well as my field assistants who helped make relevant introductions and transcribe interviews and focus group discussions. I would not have been able to coordinate and execute a project of this scale without the generous help of grants and fellowships. And writing funding applications has a way of shaping one's research to fit with funding agencies' institutional objectives. My awareness of public and congressional pressure on the National Science Foundation to promote actionable research, for example, encouraged me to incorporate a survey into my research design. And applying for the Fulbright-Hays encouraged me to ground my research questions in the Africanist literature on intra-household dynamics. This last consideration, in particular, raises

important questions about the extent to which I have continued what has been criticized as a Western feminist tradition with a propensity to paint African woman as victims, see them as a unified category, and treat the conjugal unit as the locus of female subordination (Oyěwùmí 2002, Amadiume 1987). My self-identification as a white feminist Westerner certainly cannot be disentangled from the work I have produced, both in my interactions with research participants as well as what I have written here. My particular presence in the field enabled my ability to ask certain questions and constrained my ability to ask others. My training in American and British academe has instilled in me a sense of the importance of detailing the oppressive nature of culturally diverse patriarchies. Yet my reading of critiques of white Western feminism also motivated me to document the experiences of both disenfranchised and elite Senegalese women. In hindsight though, and in re-visiting some of the post-colonial critiques of feminist scholarship about Africa, I am also struck by the extent to which the broader literature (and I) started with the premise that conjugality was the central organizing principle of fishing households rather than age or kinship position based on family lineage.

This observation is in direct response to Oyěwùmí (2002) who has argued that the application of the Western model of the nuclear family to African contexts has masked the importance of seniority as the key marker of social stratification among the Yoruba in northwestern Nigeria. In pre-colonial times, Yoruban society was gender-neutral, and had prominent female and male chiefs. It was only through contact with the transatlantic slave trade that outsiders insisted on male leadership, leading to the displacement of women from key leadership positions; thus colonialism (broadly defined) foisted a

gendered hierarchy onto a society where none had existed before. The propagation of a "Westocentric" (Oyěwùmí 1997, 18) gender analysis in social sciences on Africa, she argues, only perpetuates this "Euro/American cultural hegemony" (Oyěwùmí 2002, 1) by positioning Westerners as the knowers and Africans as those to be known. In contrast, close readings of indigenous languages and histories allows scholars to reveal how lineage position and seniority condition an individual's social position as well as their ability to disengage from gendered (e.g., women's) work to assume other responsibilities. Much of feminist scholarship can then be read as denouncing the implications of Western involvement on the continent, rather than some inherent female subordination *per se*.

In Wolof society, Diop (1981) argues that caste and position in religious hierarchies have been key determinants of social stratification: this case study has not taken into consideration caste or religion, and a fuller analysis would do so. But together, though the division of labor in fishing economies confirms the empirical appropriateness of gender as a category for analysis, the ethnographic record's emphasis on age and kinship structures suggests that my premise that the conjugal unit (and contract) anchored fishing households was also, as Appadurai (1990) put it, a "perspectival construct." My assumption that marriage was a central element organizing fishing economies was to some extent borne out in the data, but I also produced my findings in a particular way. Survey results showed that boat owners almost universally gave their wives fish, and, depending on their wives' engagement in the sector, might also sell them small amounts. But I did not ask about boat owners' kinship positions within their lineages—for example, concerning their exchange relationships with senior and junior kin regardless of gender. In this sense, I did contribute to—and thus perpetuate a tradition of—scholarship

highlighting the importance of the conjugal unit through my own survey design.

Alternatively, I could have started with the premise that age was more important than, or as equally important as, gender in terms of claims to fish. Such an approach may have very well shown that boat owners, in the absence of debts to wholesalers, tended to sell large amounts to senior kin sharing the same ancestry relative to the amounts sold to family members who married into the extended household (i.e., wives).

Yet I would also like to make three counterpoints. The first is that the near neat division of the public demonstrations over the phantom factory suggests that gender analysis is not only grounded in my politics but in the contemporary empirical context I studied. If, like in Nigeria, age and ancestry have historically been more important in the allocation of income, control over labor and access rights, in the Senegalese contemporary context gender has also emerged as a key axis of social differentiation. It is an open question whether this is a direct result of colonial interventions, or of a long line of Development initiatives encouraging gender analysis in order to inform the distribution of foreign aid and other funding (cf. Mama 1997). Secondly, the fish-for-sex phenomenon in East and Southern Africa confirms the enduring salience of "marital metaphors" (Schroeder 1996) to the gendered exchange of fish on the continent.

Arguably, the media coverage and even scholarship on this phenomenon has been sensationalist in tone. And on the whole, the emerging discourse has not contextualized these contemporary exchange arrangements in histories of household production, or transitory and/or serial marriages in the region (e.g., Zambia, as documented by Harrison 1997). But the fact that women have tended to market and process (now, especially lower-value) fish, and men have tended to harvest, means that the emergence of gender

discourses among fisherfolk do not only constitute the projection of an analytical framework informed by a critique of Patriarchy. There is a material and economic basis for the division of labor, and gender subjects have been made through their engagement in fish production. This brings me to my third point. The recent incorporation of intersectionality into feminist theorizing in human geography means that accounting for differences among women and men is becoming—or has become—institutionalized as a research priority. In this vein, this dissertation has included analyses of age and class to nuance my account of social differentiation in a way that continues a tradition of, and incorporates critiques of, gender analysis on the continent.

Case study selection is another example highlighting how the knowledge I am presenting as true came to be socially constructed. I first traveled to Joal because that is where the Operation Crossroads Africa group I was a part of in summer 2005 had links with local NGOs. This placement was not an intentional choice to study fishing economies on my part; Joal just happened to be one of the most important fishing centers in Senegal, and so my research developed in this direction. When considering where to base my field research for my doctoral dissertation, it made sense to continue working there, as I already had work contacts as well as a circle of friends and families who were willing to host me, should I need the help. Yet what storytelling omits is just as important as what it includes, and it would have been possible to not have been aware of what happened in Kayar given my personal and professional embeddedness in Joal. However, when looking at how the experience of a changing gender division of labor in my fieldsite has differed from the experience in Kayar, it is clear that the two fishing towns tell different stories about the challenges and possibilities that the sector poses for women

involved in processing. Were I not aware of the Kayar experience through discussions I had with public officials in Dakar, for example, I may have very well kept an exclusive focus on Joal. With no counter-example(s), this would have been open to the interpretation that the entry of male entrepreneurs into processing was a countrywide phenomenon. Thus "case selection" is crucial to understanding the applicability of findings to other contexts, as are acknowledging the peculiarities of a given case. Had I spent the majority of my time in Kayar (or Saint-Louis), my findings would have likely told a different story. But my understandings of the Joal and Kayar experiences do suggest that a byproduct of artisanal fisheries in Senegal has become a precious commodity that fisherfolk fight over in a way that re-iterates gender as a key axis of social difference in West Africa.

6.2. Developing "seascapes" through an analysis of land-based production systems

Conceptualizing seascapes has allowed me to explore the linkages between land and sea-based production systems in such a way that attempts to destabilize the land/sea binary. Thinking about agriculture and fishing as two separate domains risks overlooking, as in the present example, how Sahelian drought and macroeconomic reforms contributing to agricultural decline created a migrant labor pool that facilitated the expansion of the sardinella-based purse seine fishery. Examining how fish production shaped processing, and in turn, how changes in processing influenced fish production also unsettles a facile dichotomy. Changes in harvesting practices at sea created the waste that *femmes transformatrices* made creative use of, which led to the commodification of processed fish. The diversification of fish products for sale on markets, in turn, enhanced the

production incentives for fishers, since *keccax* and *guedj* markets created new income streams for them. Widening the scope of the seascapes concept to include structural change on land is then crucial to understanding the political ecological circulation of people and things -- that is, laborers, surplus and sardinella in the given instance.

In a similar vein, Williams and others (2012) argue that fishing, aquaculture and farming represent topic areas that can be sources of conceptual cross-fertilization. The authors also warn against the conflation of these idealized systems of production, presumably because they represent different material and social realities. Indeed, the political ecology literature, which is largely dominated by studies on farming, may stand to gain theoretical insights from learning about seascapes, riparian and lake-based fisheries, and aquaculture, broadly defined. Similarly, a political ecological approach to fish, shellfish and seaweed production⁶⁴ has a lot to learn from contributions investigating agrarian change. Let me elaborate on a few potential points of synergy for taking this conversation forward.

6.2.1. Land and ocean grabbing

One reason why some of the lessons learned in household studies and feminist political ecology must be updated is that the political economy of access to resources has substantially changed since these texts' original inception. A recent issue is that of land grabbing on the continent, one that was alluded to before in the introductory chapter. As scholars such as Behrman and others (2012) have underscored, the large-scale appropriation of land in Africa is not a new phenomenon. Rather, one could point to many examples, as for instance, during the colonial era. But the scale of this recent

⁶⁴ See Besta (2013) who explores questions of access to marine resources and its implications for intra-household relations on Songo Songo island in Tanzania.

incarnation is unprecedented. To put land grabs in global context: two-thirds of the total worldwide land leased through such deals is currently found in sub-Saharan Africa (*ibid.*, 50).

The discourse on land grabbing—largely understood as an enclosure of the commons as well as privatization and commodification of common property resources (Hall et al. 2015)—has also been taken up in the realm of fisheries. Framing distant-water and IUU fishing as "ocean grabbing" (Bennett et al. 2015) arguably latches onto the attention terrestrial variants have received from journalists, NGOs and researchers alike. A key point of comparison between land and ocean grabs is the extent to which they provide market opportunities for local people.

Behrman and others (2012) note that land grabs tend to fall into one of three categories, which include creating wage labor employment for locals, engaging them in contract farming or foregoing locals altogether by bringing in outside help. Less is known about if and how ocean grabbing incorporates people who previously relied (or continue to rely) on the resources in question. My initial observations during fieldwork suggest that there are interesting linkages to be explored regarding the nature and consequences of bait fishing, pirogues scouting fishing grounds for industrial ships and the hire of Senegalese and other West Africans for their specialized navigational knowledge in the region. One avenue for future inquiry in this vein would be to build on the literature on the gendered dynamics of transnational households in the context of the Senegalese diaspora (Babou 2008, Buggenhagen 2012, Hannaford 2015) to consider how the transitory nature of these fisherfolk works in and through kin-based institutions. Assuming that working for foreign owned industrial ships would be remunerated in

money in lieu of fish, what would be the implications for the function of evolving fishing households? Would this new function provide another example of households becoming sites of consumption and social reproduction in the wake of shifts to commodity production across Africa?

As Hall and others (2015) lament, however, there have been few studies looking at the gendered and generational implications—and especially responses—to the new political economy of land grabs. In his review of the literature discussing the ideological nature of the debate on contract farming in Africa, Oya (2012) notes that recent studies have predicted that such schemes may very well rise as foreign investors acquire and develop more land. Here is an interesting parallel between agrarian change and evolving seascapes: does participation in such ventures successfully, or adversely,⁶⁵ incorporate peasants into global value chains? The case of sardinella production in Senegal has the potential to provide insights into the types of land grabs that expand contract farming as well as the types of ocean grabs that expand contract fishing.

6.2.2. Gendered, generational and class resistance in contract farming and fishing

An enduring definition of contract farming comes from Little and Watts (1994, 9) who describe it as:

forms of vertical coordination between growers and buyers-processors that directly shape production decisions through contractually specifying market obligations (by volume, value, quality, and, at times, advanced price determination); provide specific inputs; and exercise some control at the point of production (i.e., a division of management functions between contractor and contractee (as cited by Oya 2012).

⁶⁵ See Cynthia Howson (2013) for a case study of adverse incorporation among micro-credit users in Senegal.

Contract farming is an element of agrarian change that has strong parallels in fish production. In both instances, contractual production arrangements are related to processes of commercialization, which entails the reconfiguration of the social relations of production in order to make cash crops, or fish for sale. I start by contrasting contract farming in The Gambia and contract fishing—understood in terms of the debt relations between wholesalers and "boat owners"—in Senegal.

In The Gambia, when contract farming was introduced in the Jahaly-Pacharr swamps in the 1980s, for example, women and men were both primary producers. Both parties farmed; the gender division of agrarian labor lay along crop lines. Crops for family subsistence were largely women's, for instance. With the introduction of irrigation schemes, male household heads invoked gender discourses to enroll women's labor in the production of rice despite the latter party having no enforceable claims to the resulting income. In turn, women responded by deploying a discourse that grounded the fruits of one's labor being destined for individual use (*kamanyango*, Carney 1993). In contrast, in Senegal's fishing economies, because of long-standing norms that define fishing as men's work, women tend to be engaged in secondary production (i.e., processing and marketing). This means that, unlike in the Gambian example, women and men often occupy different structural positions within the *same* commodity chain (or production system).

In a certain light then, like the customary practice of allocating usufruct land rights through an appointed male representative from the local family lineage (*le lamane des terres*) to household heads (see Sall and Thioune 2012),⁶⁶ fish is a factor of

⁶⁶ As Sall and Thioune (2012, 116) elaborate in their case study on women's access to land tenure in Senegal: "the relationship between the land and the individuals of a group or society is always a reflection

production that men can cede to their female kin on the basis of women's informal but historically rooted claims. Allocating land rights rather than income is a crucial distinction because the former facilitates women laboring so that they can generate money for their own accounts. In contrast, men allocating income to household members has the potential to reinforce patriarchal authority through the power of the purse. The fishing economy is different from contract farming, however, since men are not relying on women's unpaid labor to produce commodities. Rather, vocal boat owners are attempting to bypass a key transaction that has allowed female kin to add value to fish as owner-operators of their own businesses over the past four decades.

In parallel with land reclamation projects in the region that made more land available, however, one could argue that the commodification of *keccax* created new income streams that men are, through price negotiations, trying to *re-claim* (cf. Schroeder 1997). In aiming to redistribute the benefits flowing from sardinella through a primary/secondary production link, so-called boat owners are attempting to shift the relative gendered *and* intergenerational distribution of income within households in their favor. Such a view contradicts informal conversations I had with boat owners who stated that giving fish or money to their family members was much the same. Allocating a factor of production for another's own use and allocating income arguably have different implications for gendered power relations, however. This suggests that when women and men represent different structural positions in a given agrarian commodity chain (rather than similar positions in different foodstuff production and commodity chains), access to

of the relationship that is established between the individual and the family, therefore, between the woman and the family." Recall also that when women marry, they tend to establish residence with their husbands' families. This means that, in many instances, women's access to land depends not only on their relationships to their husbands, but also to their in-laws. See also Diop (1981, 181) who describes how *lamanes* have managed access to land on the part of "lineage or clan community."

land and control over labor per se may not be the key domains articulating gendered power and resistance. As we have seen in fishing economies, contests over the distribution of benefits flowing from sardinella revolve over price.

The production unit of the purse seine fishery also raises the question of natural resource users' strategies of resistance, but in relation to class processes.⁶⁷ Vercruissje (1984) once argued that fishing economies characterized by debt relations in Ghana were a transitional form of production in the development of capitalism. Here, I am less concerned with the extent to which the purse seine fishery constitutes a form of (pre)Capitalism, and more interested in enriching analyses of labor exploitation by highlighting the ways that youth and so-called boat owners respond to processes leading to the accumulation of commercial and productive wealth.

The first point to recall is that when boat owners take out loans from wholesalers, the amount of the fish that the latter party wants will be taken out of the entire catch as partial repayment before the rest is sold. Debts are taken out of the common pot first. Proceeds, according to the share system, are distributed second. This means that everyone, including transitory youth, contribute to the repayment of boat owners' debts. The catch is not sold first and divided, with the boat owner paying back with his portion. The crew absorbs his debt payments too. Over the course of my fieldwork period, I did not encounter acts or an ethos of resistance among youth labor employed in the purse seine fishery to this arrangement, however. In fact, many fishers expressed a sense of

⁶⁷ See Hall and others (2015, 475) who argue that "addressing the ways in which land deals incorporate local people—who, how, why and on what terms—can help us to understand what conditions responses, including resistance of various kinds as well as the absence of resistance, and so deepen our critical inquiry into the global land grab."

solidarity with their colleagues, regardless of occupational position within the fishery (wholesalers excluded).

Though this is a line of inquiry that warrants further research, it is possible that, like in Uganda where migrant fishers accept economic marginalization because of the urban lifestyle that residing in fishing centers affords them (Beuving 2010), Senegalese fishers have more than economic motivations for engaging in the fishery. Moreover, the nature of the share system means that they have strong incentives to produce more rather than less. They receive a portion of the catch in monetized form rather than a set wage that is more loosely dependent on outputs. Lastly, agrarian change has made the sea many young men's last hope with few alternative options for sustainable employment. Coupled with fishers' stated goals of becoming breadwinners through boat ownership one day, these structural and sociocultural factors help explain why youth in the purse seine fishery are invested in their own exploitation. Whether this is a Gramscian example of a lack of class consciousness or an instance where hegemonic masculinity prevents men from destabilizing the prevailing gender order is a matter of perspective. But an intersectional approach to access provides useful concepts for thinking through how the absence of resistance on fisher's parts may be explained both in terms of class and masculinity. Who works, how much of the fruits of their labor they control, and the extent to which they contest the prevailing "*terms of their incorporation*" (emphasis in original, Hall et al. 2015, 472) have been crucial questions for understanding the household that can be applied to examinations of the firm.

In contrast to relations among fishers (understood as a loose category that often includes boat owners), class struggle can be seen between those seeking lines of credit

and accomodating wholesalers. The leader of the council governing conflicts arising at Joal's fishing quay reported conflicts with wholesalers as the most widely reported issue among fisherfolk. In some instances, boat owners would circumvent their obligations to sell to their creditors by selling their catch at a nearby landing site before returning to Joal empty handed. In other more brazen attempts, boat owners would simply sell their catch to other wholesalers, intermediaries and *femmes transformatrices* in Joal. Depending on the relationship a boat owner had with his creditor, the amount of his outstanding balance, and the inclination of the wholesaler, the boat owner may or may not be called upon for mediation with the council leadership. Inability to resolve the issue might result in the case being taken to the local public authorities (i.e., *la gendarmerie*) or the wholesaler repossessing the boat, gear and motor(s) with "boat owners" losing all equity. These acts of not always successful resistance can be seen as a response to the structurally vulnerable position boat owners often find themselves in vis-a-vis those who provide credit. As Gerber (2014) has argued, in rural production systems, class divisions often fall along creditor/debtor lines.

Thinking about debt in the purse seine fishery as constituting a variant of contract fishing then helps us to appreciate the gendered, generational and class struggles that arise from processes of commercialization. Production units have particular internal dynamics that must be understood to explain the presence or absence of natural resource users' resistance to evolving ways of relating to fishing economies. These findings reinforce this dissertation's conclusion that fish production has to a large extent been taken out of the household, pointing to the importance of applying concepts about power

and resistance developed within this institutional structure to other sites of surplus extraction.

6.2.3. *Nesting bundles of access in scalar market dynamics*

Ribot and Peluso (2003, 173) argued for the importance of understanding access as a "bundle of powers." When applied to this case study, for a boat owner who controls access to sardinella at the first point of sale, other access seekers' relationships to him condition whether they can gain or maintain the ability to benefit from the thing in question. This conceptualization takes into account different dynamics bearing on sardinella's accessibility to fisherfolk, including access to technology, capital, markets, labor, knowledge, authority and social identity. My contention has been that such an approach is deepened with a gender analysis. This argument built on my reading of Rocheleau and Edmunds' (1997) theorization of tree and forest tenure, which highlights the three-dimensional nature of women and men's claims to natural resources, depending on location and the function of the resource. They introduced the important concept of thinking about socially mediated bundles of access—sets of overlapping claims to resources found on the same land that include "in-between spaces." For instance, someone might have claims to the timber of a tree, but someone else might be able to harvest the same tree's fruits before it is cut down. Taken together, one can start to appreciate why, as Rocheleau and Edmunds explicitly stated, initiatives seeking to promote gender equity must take complexity into account.

In light of this dissertation's findings, I would like to introduce yet another aspect of complexity bearing on who is able to benefit from things. The case of sardinella in Senegal highlights the centrality of scalar market dynamics to such an analysis. For

instance, who needs how much of a given resource for it to attain a certain function? And what political ecological factors have made it such that certain livelihood activities must reach a certain threshold of production in order to be sustained at all? These are questions that extend Rocheleau and Edmund's contribution that the function of a resource shapes who has a claim to it. In addition to understanding how the function of a resource shapes the "multiple uses of specific spaces and resources by multiple users" (Rocheleau and Edmunds 1997, 1358), access is also mediated by the quantities of the thing an access seeker *needs* to benefit from a given, and related, natural-resource based livelihood activity. An appreciation for shifts in scalar market dynamics deepens Ribot and Peluso's approach by bringing attention to a dynamic that is interwoven with, but also distinct from, the technological and market dimensions of change that they identify.

In fishing economies, thinking about the socially mediated nature of access in tandem with an appreciation for scalar market dynamics also underscores overlapping bundles of powers, power relations and rights constituting access to fish. Thinking about access to sardinella as nested in these shifting dynamics across space and time also entails thinking about the sets of overlapping claims that fisher's wives, mothers, aunts and wholesalers have to a given boat owner's catch. In the purse seine fishery, a boat owner will first give his wife/ves fish to cook for family consumption. If his spouse(s) are active in the sector, he might also sell them a relatively small quantity of fish at a discounted price, to be paid for at some future date. These are the first and arguably most fundamental claims: fisher's wives in most instances still have first dibs to their husband's catch, though the quantity of fish received limits the activities wives can undertake at a profit. But the amount wives receive largely corresponds with their livelihood activities,

amounting to an ability to benefit. Second, in cases where boat owners have borrowed money to cover fixed and operational costs, they repay wholesalers (or their creditors) in money or, mostly, in kind. When paid in kind, the amount of debt that is absolved for a given quantity of fish is largely at the discretion of the wholesaler. Boat owners report that, besides the amount given to their wives, which is considered incidental, the quantity they "sell" to wholesalers is up to the latter party. What the wholesaler does not want amounts to what boat owners can thereafter sell at "market" prices. The extent to which boat owners benefit from these arrangements is highly contingent on environmental, market and social conditions. Market prices are a function of going rates, largely based on the relation between supply and demand during a certain period of time, and the boat owner's ability to negotiate. This introduces the third and more tenuous claim that female kin other than fisher's wives make—that is, the assertion of a moral economy framework where older and more-established *femmes transformatrices* vie for fish outside the figurative auction block. This set of actors negotiate price by invoking their responsibilities to the families they share with boat owners. They feel entitled to a portion of the catch that would allow *keccax* and other forms of processing to operate at economies of scale. The point is that the amounts these women buy from family boats often do not satisfy their business needs, due to technological change. This means that *femmes transformatrices*' ability to benefit from sardinella is no longer exclusively contained within the socially embedded institution of the household.⁶⁸

Together, what these points of comparison confirm is that the extent to which economic transactions are embedded in social institutions is subject to change. Research

⁶⁸ These transactions aside, boat owners sell the remainder of their catch on the free market (*la vente libre*), which creates alternative streams of benefits for buyers who do not exercise institutionally embedded claims.

on land grabs and findings from this dissertation suggest that studies on contract farming and fishing can benefit from thinking through the intersectional dynamics of resistance to market incorporation. In Senegalese fish production, I have shown how gender and age intersect to create constellations of power-inflected negotiations over price in an instance where men are engaged in primary and women in secondary production. A shift in empirical focus from conflicts over control of land and labor to a focus on price and income may be helpful in farming systems where women and men occupy different structural positions within the same commodity chain. In the purse seine fishery, class and gender intersect to create the conditions of fishers' acquiescence and boat owners' circumvention of exploitative arrangements with wholesalers. The combination of a masculinities and class framework⁶⁹ can inform future studies on the presence and absence of resistance to land grabs (following Hall et al. 2015, 475). These are examples of how case studies on debt relations in fish production can inform contemporary understandings of agrarian change instigated by foreign investors' large-scale acquisition of land on the continent. Like foundational texts in feminist political ecology and Africanist conjugal studies, a theory of access and conceptualizations of overlapping claims to natural resources can also be extended to shed light on important contemporary dynamics. Nested bundles of access are not just about different resources that grow or are found in the same spaces, as defined by locatable boundaries. Multi-dimensional access (understood as a bundle of powers) is also nested in how much of a resource a given claimant is entitled to, and the suitability of this quantity for what they need to sustain their livelihood activity. Quantities of a given product, in addition to different types of

⁶⁹ See also Groes-Green (2009) for a case study on the interlinked notions of masculinity and class in Mozambique.

products, are thus central to understanding the multi-layered abilities of people to benefit from things. Structural analyses are well-positioned to deepen understandings of how much of a given thing is required to accomplish a given livelihood task or extract surplus from a given market activity.

6.3. In conclusion

Recent agenda-setting articles in the field of feminist political ecology such as that written by Hawkins and Ojeda (2011) have emphasized the importance of employing performative theorizations of gender to improve upon early and foundational works' essentialization of resource users as men or women. Nightingale (2006) more specifically argued that structural antecedents in the sub-field tended to translate gender talk into an empirical focus on women. This is in contrast to recent studies conceptualizing gender as co-produced with other axes of social difference through the production of nature as well as those understanding conflicts over access to natural resource as interpellating gendered subjectivities. I have problematized such a stark distinction between old and new approaches, by showing how structure, technology and work are key to identifying when and how intersecting lines of social difference matter—and become strategic—in contestations over who is entitled to fish, and at what price.

By way of illustration, my analysis took the historical gender division of labor in Senegalese fish production systems as a point of departure, with an intended trajectory of incorporating an intersectional lens to examine processes interpellating gender subjectivities. Understanding fish processing as women's work was useful because it brought attention to the locus of the household and the complex institutional dynamics

governing access rights, income distribution and, implicitly, power relations between marital partners. Tracing developments in the modes of fish production and processing pinpointed the specific mechanisms and processes shaping who was able to sustain a natural resource-based livelihood as the fundamental contours of fishing economies transformed.

For instance, understanding the role that French colonialism played in monetizing the exchange of fish helped us to appreciate the adaptability of fishers who started to take advantage of widespread motorization to find the best markets for their goods. This, coupled with the introduction of the purse seine, changed the composition of catches to such an extent that what had become a commodity chain split into two: those species fit for immediate sale in consumer markets and those species discarded for lack of a better use. At this point, fishing and fish processing still displayed a strict gender division of labor. Thus, in some sense, understanding the impacts and implications of these shifts for women and men was not just an ontological choice. It also made sense in empirical context. Because of the gendered nature of work processes and the institutional context of the conjugal contract (though in some cases attenuated due to heightened mobility), one could establish a baseline of change for understanding shifts in who subsequently was poised to benefit from fish, and sardinella in particular. In the 1970s, fish production systems were starting to extend beyond the locus of the household, due to, for example, effective open access to bycatch. But understanding fishing as a full-time occupation for men and processing as a corollary activity for women was not merely a projection of the gender binary. It was also grounded in history and material everyday realities that made

gender a key axis of differentiation when trying to ascertain how harvesting and post-harvest activities evolved in articulation with one another.

Establishing that women, and female kin of fishers in particular, were the primary actors collecting fish from beaches and boats (in exchange for unloading them) also contextualized women's claims to processing in Kayar. In contrast, Joal did not provide a case where the gender division of labor was upheld. There, undertaking an approach, following Carr (2008), that differentiated among women made sense to specifying the socioeconomic positions of those who were able to expand economies of scale in order to provision West African markets. Despite *femmes transformatrices* vociferously arguing for keeping prices low in the case of the phantom factory, their depiction of the issue as a womanly one did not reflect the interests of all female fisherfolk. Regardless, a historical materialist approach to intra-household production provided the norms and practices *femmes transformatrices* could cite to define and advocate for their own interests.

Historicizing a shift to large-scale production in the fabrication of *keccax* and contextualizing this shift in the new production requirements of newly opened markets thus provided an empirical basis for starting to understand the utility of gender discourses. Women who were unable to financially cope with technological upgrades either became laborhands or abandoned processing altogether. Recall that laborhands are paid by the bucket of fish that they clean. May I also add that the rate they are paid has not gone up since the time I first started travelling to Joal—that is, since 2005. *Femmes transformatrices*, in invoking motherly ideals, were not directly advocating for this subpopulation of women whose class interests were co-produced with gender in one of the least profitable niches of the commodity chain. Neither were *femmes transformatrices*

speaking for a newer generation of fishers' wives who had adapted to structural change by dealing in smaller amounts of fish that did not require large upfront investments.

Understanding the historical gender division of labor and how it had changed were thus crucial for undertaking an intersectional analysis that demonstrated the importance of class and age as important social differences along with gender, with important implications for who could benefit, and how much, from sardinella. Moreover, it is worth re-emphasizing that processing is no longer women's work and so essentializing it as such is no longer an accurate description. The entry of male entrepreneurs with access to credit in the sector has heightened competition among producers, further widening the divide between the women who were able to get big from those who got out. But this is not to discount the utility of analyzing who has done what work, and how this has changed over time. Retrieving insights from structural feminist political ecology regarding the importance of households in allocating access to resources, income and labor thus provides an essential foundation for understanding the discursive tools available to specifically located women—whether they are maintaining control over processing, as in the case of Kayar, or contesting the emergence of new buyers of fish, as in the case of Joal.

Interpreting gender as one, but not the only difference, that matters to struggles over access was also crucial to applying the concept of hegemonic masculinity to sardinella fisheries. This was important because it illuminated the motivations for young men who undertook employment on purse seines despite them representing exploitative enterprises, encapsulated in the concept of accumulation harvesting. Using the analytical tools that structural political economy provides was important to contextualizing why

young men saw employment in the fishing sector desirable. Understanding the relative distribution of surplus to capital versus labor also gave us a greater appreciation for the modalities available to young men for boat ownership. Though men fashion and re-iterate ways of being men through fishing, and frame this activity as a display of strength and sacrifice, not all fishers are able to attain their life goals through such work-lives. Their social locations in the hierarchy of men largely determines their chances of realizing social adulthood through engagement in the sector. And an appreciation for how class intersects with these gendered aspirations sheds light on the increasing pressure the small-scale sector is placing on the resource.

Yet, in a certain light, these are not particularly new insights. Mackintosh (1989), for example, whose work bears a "family resemblance" (Watts 2000, 271) to feminist political ecology, has argued that gender and class cannot be understood in isolation from one another. Rocheleau and others (1996, 4) framed "gender as a critical variable in shaping resource access and control, interacting with class, caste, race, culture and ethnicity to shape processes of ecological change, the struggle of men and women to sustain ecologically viable livelihoods, and the prospects of any community for 'sustainable development'." And, as I have highlighted, theorists working on the continent have underscored the importance of age and generation as markers of social difference. *Femmes transformatrices'* outspokenness could, for example, be interpreted as a function of the honorary male status many West African women assume once they have stopped bearing children. But the key point is that contemporary studies of intersectionality can build upon structural analyses that have theorized gender as a dynamic process.

Still, seeing structural and post-structural approaches to feminist political ecology as complementary raises an important question: does dismantling social truths such as the gender binary take away from the political project of transforming capitalist patriarchies? This is a question that also comes to mind in recent discussions of Ferguson (2009, 167) who has argued that scholars studying neoliberalism must replace a litany of policies, projects and philosophies that they are firmly against, with answers to the question "what do we want?" For feminist political ecologists such as Harcourt and Nelson (2015, 12), Ferguson's prerogative assumes that there is a coherent "we" that scholars can claim they speak for in the first place. When viewed from the perspective of a long history of feminist praxis struggling to reconcile a diversity of women's interests with fights for gender equity, this critique is certainly resonant. But following social theorists such as Castree (2008a, 2008b) who argue that the empirical burden is on scholars to document the neoliberalization of nature if they are to critique it, I would posit that it is not enough to theoretically unsettle a regulative fiction. Here, I am reminded of Walker's (2006, 385) insight, when he asked, "if a mighty 'received wisdom' falls in the dense forest of social theory but no one hears it, did it make a sound? Did it really *fall*?"

One way to reconcile these ideas is to assert that it is important to document the gender binary's utility, and to remember that the reasons why it is useful cannot be assumed. Looking at labor processes in Senegalese fishing economies, for example, demonstrates that regulative fictions are necessarily variable across time and place. In other words, the binary does work in the world that extends beyond regulating a politics of heteronormativity (cf. Butler 1990). Some scholars have even posited a doubt about recent efforts to queer political ecology, by suggesting it might be part of a Eurocentric

agenda (Harcourt et al. 2015, 287). This is not to discount the importance of case studies exploring the themes of intersectionality and performativity in diverse contexts for queer theory. Quite the contrary. But this dissertation, even in its exploration of the conjugal and other household contracts, has shown that fisherfolk are grasping and contesting a different status quo. For *femmes transformatrices* and boat owners, the gender binary is a basis for political organizing, and of seeking to redirect (or maintain) the contemporary configuration of benefits flowing from fish. Hence, this dissertation illustrates how the gender binary can be useful for those who claim half of it as their own.

Post-structural theorists might counter that this is precisely their point. Studying discursive practices shows that they can be strategically deployed. Gender subject formation creates an arsenal of socially accepted arguments and behaviors to draw on when vying for dwindling resources. And I do not contest that livelihood struggles, gendered or otherwise, are performed. But I would add that they are not just performative. To understand the political import of performances, we must understand the structural determinants that make access to natural resources such a hotly contested issue in the first place. It would not be necessary for women in Kayar to claim processing as women's work, for instance, were it not for them seeing changes in Joal that squeezed out their compatriots. And, were it not for the colonial transition to mono-cropping of groundnuts, young men would not feel compelled to assert their breadwinning masculinities through participation in sardinella fisheries. My contention then is that the study of the ongoing reiteration of gendered economic subjectivities is important but enriched when its analysis is contextualized with an attention to historical materialist and institutional nuance. These contextual elements are where the primary strength of a

structural approach lies (e.g., Carney 1993): in highlighting the specific power relations, work processes, technologies and scalar market dynamics bearing on access to resources, we gain a greater appreciation for the constraints bearing on, and helping to create, moments of possibility for resource users. Why and when gender is hailed as a political discourse are post/structural questions.

Lastly, I would like to conclude by pointing out that nuancing women's and men's activities in rural production systems is not only useful for theoretical projects. It is important because cognizant development practitioners and policy makers can cite studies such as this dissertation to advocate for projects that adopt a politicized conceptualization of gender. Gender is not just a tick box indicating an inclusion of women's projects in fisheries, development or conservation initiatives (though it has often been interpreted as such). Rather, a politicized approach to gender facilitates anticipating who a binary vision might serve, and who it might impair. Moreover, it is crucial to continue documenting the changing nature of households, to avoid reverting back to the black box that has characterized so much quantitative research in the development sector (see Oya 2015).

By way of illustration, adopting a more robust conceptualization of gender might encourage planners to develop proposals addressing the needs of marginalized fishers rather than fishers in general. Here, marginalized fishers include the "boat owners" who are taking out more debt to repay existing debt, and exerting more fishing effort in the process. Likewise, it would be helpful to start expanding the scope of interventions for women in the fishing sector beyond *femmes transformatrices*. This group of women are among the development darlings in the donor community in Senegal. On the other hand, I

am not aware of any projects working with *xoolikats* whose casual labor makes them amongst the most vulnerable to changing economic and environmental conditions. It is of course debatable if Development does more harm than good. But if monies are going to continue to pour into Senegal as part of donor countries' diplomatic and geopolitical strategies (and they likely are), I think that documenting the mechanisms and processes of intersectionally gendered change is all the more important. Strategically invoking discourses of social difference is a political act, whether it is fisherfolk or development practitioners who are the actors seeking to accomplish their myriad and sometimes questionable goals. But, in the end, this is to return to the fundamental questions, richly illustrated in accounts that historicize struggles over access *and* highlight processes of intersectional interpellation. Namely: which discourses are useful, in which moments, to whom and why?

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