The red gold rush: the impact of governance styles on value chains and the well-being of lobster fishers in the wider Caribbean
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Chapter 6: Nicaragua’s oligopolistic fishery: hardship in the wild, wild west

Introduction

Lobsters nowadays connect the Miskito Indians on Nicaragua’s Caribbean coast with the global market, just as sea turtles have done for centuries. The Miskito Indians are a waterside people with settlements almost always located along a river, lagoon, or coastal beach (Nietschmann 1972). The extensive seabed covered in seagrass off the coast of Nicaragua has long been known for its large-scale aggregation of foraging green turtles (*Chelonia mydas*) (Laguex 2005). The Miskito Indians living in the region developed excellent sea turtle fishing skills that have proven vital for their existence over the last centuries as they bartered them for tools and guns with the Europeans (Nietschmann 1972; Dennis 1981).

The sea turtle trade that began in the 1600s has only been the first of several “boom-and-bust” industries based on the exploitation of natural resources in the region, of which lobster is the most recent variant. The geographically isolated coast was never colonized by Spain, and in the nineteenth and twentieth centuries the British presence was followed by the arrival of foreign companies, especially American ones, who came to exploit the region’s resources such as; timber, rubber, sea turtles, and gold, then in later years bananas, followed by shrimp and lobster in the 1950s.

The lobster fishery developed in the region during this period as a result of international demand, mainly from the US. Although the Miskito Indians living in the region traditionally had lobster, fish, and conch in their diet (Ehrhardt 2005), no commercial lobster fishery existed prior to this point. Although the hunt for sea turtles by Miskito Indians, to supply the international market, and their hunt for lobster for the same purpose share certain similarities, the lobster fishery—and in particular the diving industry—has had a disastrous effect on the health of fishers along the coast. Although the lobster fishery in Nicaragua is carried out by trapping as well as by diving, the Miskito Indians are mainly involved in the diving industry using scuba gear.

The fishers dive up to sixteen times a day, 21 days in a row. Ehrhardt (2005) has estimated that per fishing season (8-9 months), 32 percent of the divers suffer from diving accidents. Onboard research has revealed that 75-100 percent of the divers suffer at least “mild” decompression sickness (DCS) (Barratt and Van Meter 2004). In 2001, eight divers’ accidents...

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105 Marine turtles once numbered in the tens of millions in the Caribbean Sea (Jackson 1997), and as sea turtles could be stored (on their backs and stored in small fresh-water basins onboard), they were very important for the European explorers as a source of fresh protein even when at sea for long periods of time. Carr (1955) even observed that “all early activity in the New World tropics—exploration, colonization, buccaneering, and even the maneuverings of naval squadrons—was in some way or degree dependent on turtle.”

106 Generally speaking, Miskito Indians are divers (both small-scale and industrial), while Creoles are mostly trappers (especially small-scale, to a lesser extent also fishers in the industrial fleet). Meltzoff and Schull (1999) and Monnereau (2004) indicate that nearly all divers on the island are Miskito, while trap fishers nearly exclusively Creole. In 2010, however, Rothuizen found in his research that by then one third of the trap fishers were Miskito. These boundaries are thus not fixed and can change over times as we can see on Corn Island, for instance.
deaths were reported, with up to 200 divers treated at the hospital (Barratt and Van Meter 2004). This makes the diving industry of the lobster fishery in Nicaragua the most dangerous job in the world, with the highest health risk, and the International Labour Organization (ILO) now regards lobster diving in Nicaragua as one of the most dangerous occupations in the world (Acosta 2005).

In Chapter 3, I examined the governance arrangements of the lobster fishery at the national level and concluded that the governance style of Nicaragua is one of hierarchical governance. In hierarchical governance the boundaries between the state and market in governance are, however, fluid. The fishery also shows signs of a market style, whereby the state has a limited steering ability and is at times absent. The market has either entered this void, or created the void, partly by exercising influence over the state and other parties. This chapter explores the impact this has on the achievement of well-being of lobster fishers in Nicaragua. As I have discussed in Chapter 1, I depart from a three-dimensional view which distinguishes the following: material well-being, relational well-being, and subjective well-being. These dimensions are expected to be different across the four different fishing métiers in Nicaragua: small-scale trappers, small-scale divers, industrial trappers, and industrial divers. In this chapter I will argue that the well-being of trap fishers in Nicaragua is higher than that of lobster divers. Due to the wide variety of fishing métiers in Nicaragua, the material and relational well-being will be discussed together per métier. I will start by giving an overview of the two main fishing areas (Corn Island and Puerto Cabezas, along with the Miskito Keys), followed by a discussion of the material and relational well-being per fishing métier, then give an analysis of the main economic alternative on the coast, namely, “the white lobster,” followed by a section on job satisfaction among fishers.

6.1 Fishing grounds

Nicaragua’s Caribbean continental shelf harbors one of the main spiny lobster (Panulirus argus) locales in the Central Western Atlantic. The extended continental shelf, its shallow depth, and the occurrence of abundant coral reefs provide a good habitat for the spiny lobster (Cochrane and Chakalall 2001). The spiny lobster is distributed over an area of 37,000 km² (66% of the Nicaraguan platform) in the Atlantic Ocean, but is principally concentrated around the Miskito Keys and Corn Island (FAO 2001: 252). The Miskito Keys are part of the Northern Atlantic Autonomous Region (commonly referred to as RAAN, an acronym for Región Autónoma del Atlántico Norte), while Corn Island is situated in the Región Autónoma del Atlántico Norte (Southern Atlantic Autonomous Region:RAAS).
The Caribbean region is isolated from the rest of Nicaragua, geographically as well as culturally and linguistically. There are few roads, and until very recently all traffic was by boat through the rain forest or by small plane to Bluefields, Puerto Cabezas or Corn Island. As it was a British protectorate from the seventeenth century onward, but never part of the Spanish empire, the inhabitants of this region are more likely to speak English or a native language than Spanish in everyday conversation (Hale and Gordon 1987).

On the Caribbean coast, the lobster fishery, with its high-unit value commodity, is the foundation of the economy, and represents a source of employment and income for a large part of the population in the Caribbean region, as well as export earnings for the national economy. On the entire Caribbean coast it is estimated 2,128 industrial fleet fishers are employed full-time in the lobster fishery. The estimated 2,690 small-scale fishers (divers and trappers), exceeds the number of industrial fishers (FAO 2003). Besides direct employment in the fisheries, indirectly through employment in the processing plants, commerce, maintenance, and fishers involved in other seafood products, a large percentage of the RAAN and RAAS population is involved in the fishing industry.

Nicaragua’s Caribbean region is thus a multilingual and multiethnic region, home to indigenous groups such as the Miskito and Rama, a Spanish-speaking mestizo population, as well as English-speaking Creoles. The boundaries between these ethnic groups are, however, highly permeable.

I have used the FAO figures (which uses data supplied by the government of Nicaragua). However, other figures on the number of fishers are higher. A 2005 survey carried out by Ehrhardt shows there are 4,493 small-scale lobster (and other fish species) fishers (both divers and trappers), 823 intermediaries for lobster and fish, and 1,496 crew members of the industrial diving and trapping fleet. This makes a total of 7,628 people involved in the fishery (Ehrhardt 2006). Research carried out by the ILO indicates that between 2,500 and 3,000 divers are active in the region, although official figures do not exist (Ehrhardt 2006: 7).
The lobster fishery of Nicaragua is divided into “small-scale” and “industrial” sectors and, in addition, by technique: diving and trapping. This gives rise to four different fishing métiers: small-scale-trapping, small-scale diving, industrial diving, and industrial trapping. These fishing métiers are distinctive in terms of areas of operation (depth and area), as well as type and quantity of gear. The catch percentage of each of the different fleets is roughly 25 percent (Kuninski 2004).

On the coast, there are three main lobster fishing processing centers: Bluefields, Corn Island, and Puerto Cabezas. In this research I have focused on the latter two, as these places represent 45 and 44 percent of the total spiny lobster production in the region, respectively (INPESCA 2011: 27). All lobster from the fishing grounds of the Miskito Keys is transported through Puerto Cabezas.

Corn Island depends nearly solely on lobster fishing, with few other economic alternatives present. The island is responsible for around 50 percent of the total lobster catch in Nicaragua, and hundreds of fishers are present on the island. The lobster fishery of the island started at the end of the 1960s, when small-scale lobster fishing for the export market began. Corn Island is the most important lobster fishing community in RAAS and consists of two islands: Big Corn Island and Little Corn Island. Big Corn Island is the most populous island, with a population of nearly 7,300 in 2002; Little Corn Island has a population 1,100 (Roque et al. 2002: 58). The high population density of Big Corn Island is the result of the large lobster industry on the island, which attracted many Miskito Indians to the island after 1990.

The Miskito Keys are host to the most productive lobster fishing grounds in RAAN. The keys are the main fishing grounds, yet it is the city of Puerto Cabezas where all industrial diving boats are based, and where several processing plants are located. Puerto Cabezas has several large processing plants and a very large pier where container ships come to collect the lobster and transport it to such destinations as the United States. The Miskito Keys hold three of the most productive ecosystems in the world, combining mangroves, marine grasses, and coral reefs, and are therefore the perfect habitat and feeding area for lobster. It is also the area with the biggest concentration of juvenile lobsters and is therefore an area of great importance for the whole lobster population (Kuninski 2004). Since the end of the 1990s, the Keys have experienced an in-migration of fishers and intermediaries, and the population has grown to an estimated 600 (Kuninski 2004).

6.2 Material and relational well-being

Small-scale trap fishers

Nearly all trap fishing, both small-scale and industrial, is carried out from Corn Island. Small-scale trap fishers are day fishers who leave early in the morning and return in the afternoon. They typically operate from fiberglass (and the occasional wooden) skiffs that are 7-10m long, powered by 40-85 hp outboard engines and crewed by three to four fishers. Respondents indicate they use 60-200 traps, depending mostly on financial means, or as they put it: “What our pocket can stand.” A few owners own enough traps to make it worthwhile to go out to check the traps every day (with a total of 250-350 traps). However, a large number of owners have “only” 60-250 traps, known locally as “pots,” making it economically more
sensible to go out every two or three days. Some fishers indicated they check their traps once a week. Respondents indicate that this frequency depends on the number of traps and seasonal and weather conditions. The most frequent number of traps utilized on Corn Island was some 100 traps (35%), closely followed by 150 traps (16%), 200 traps (14%), and 50 traps (9%) (Ehrhardt 2006). Remaining fishers had 300-350 traps; however, by law, small-scale fishers are not allowed to have more than 300 traps (Barnutty 2006: 9).

Depending on the number of traps, the season, the wind, and the weekly catch, fishers generally pull their traps every five to seven days. The traps are made of wood (known locally as nanciton) and typically last a single season. The more expensive longer-lasting pine (typically two seasons) is also available; however, it is often too expensive for fishers. Traps, or “pots,” are set in strings, these comprise on average of 20-25 traps (Monnereau 2004). Space between traps is 18 fathoms (1 fathom = 1.83 meters), with a 25-fathom marker line at each end (ibid.). At the end of the string, one can find wooden sticks with flags made of old T-shirts or pieces of plastic to recognize the buoys by, as well as Styrofoam balls. Fishers leave early in the morning and travel to the fishing grounds to empty their “string of pots” and set them in a different location. Fishers use GPS or compass to find their traps and copy the locations in a notebook at home. However, fishers usually know the exact location by heart, yet use the GPS both for security and to “sink them down” without using buoys. This means the pots are set just below the water surface, and only by using GPS are fishers able to relocate their traps; they do this to decrease trap theft.

Traps are “pulled,” or “hauled,” with a long pole with a metal hook at the end, or by a winch on bigger (but still small-scale) boats. The traps are hauled on board, emptied, and a new piece of dried old salted cowhide is inserted in the traps using a thin metal wire. The stench from the bait is horrifying, especially for those who are prone to seasickness. The fishers will clean the traps with an ordinary stiff brush, scouring the slats and frame to reduce any flourishing marine growth. If left unclean, the traps not only deteriorate more rapidly, but also do not seem to attract as many lobsters, according to the fishers. Broken slats are repaired immediately, and the frame reinforced with additional nails if it has become loose, before throwing the trap back overboard, as any broken slats permit lobsters to escape. Fishers do not need to bring ice, as lobsters are kept alive until they are tailed once on shore, or close to shore.

The majority of small-scale trappers work the entire fishing season (eight months, with a closed season from 1 March to 30 June), as 79.5 percent works over six months (Ehrhardt 2005). Small-scale fishers usually sell their product to intermediaries, who run businesses known as acopios. Most captains are also boat owners; few possess more than one boat. However, some acocio owners (i.e., intermediaries) will possess two boats, and sometimes even up to nine. In another case a captain will own four boats, which means that he will captain one and have the other three boats work for him.

Approximately 40 percent of the small-scale trappers are Miskito Indians, Creoles are the second largest group at 35 percent, while the remainder are mestizos and Garifuna (Ehrhardt 2006). Crew can be kin, but this is not necessarily the case. The captain works with

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109 After a storm or northerly winds, for example, fishers indicate more lobster will usually have entered their traps.
two to four crew members, depending on the size of the boat. When the captain is also boat owner, he will pay the crew around USD 1 per pound of lobster caught, or in some instances the crew might have their own string of pots whose revenue will go to them. Where the captain is not the boat owner, the captain will receive USD 2 per pound and sailors USD 1. Each year trappers have to renew their traps, which means a large investment, and they generally do this on credit, borrowing the funds from intermediaries.

Some fishers might sell directly to a processing plant if they don’t need the credit or other supplies that acopios also provide. Acopios are small business working as official intermediaries for fishers. Previously, processing plants would sometimes finance independent fishers, but as so many fishers were slow in paying off their debts, processing plants became reluctant to supply credit to fishers. The processing plants offer a higher price to the fishers than the acopios, but many fishers depend on their acopio for credit for fuel, bait, and traps, and are not in a position to sell directly to the plant. Fishers choose an acopio according to the vicinity of their house and boat, and relationship with the acopio owner.

Acopio owners make a profit from selling at a higher price to the processing plants (minus the deductions in operation costs), from the interest on the loans to fishers, and because they will sell items such as bait at a higher cost than the purchase price. Acopio owners usually make a profit of about USD 0.50 per pound, but they run the risk of unpaid debts. One acopio on Corn Island would sell cowhide bait for USD 3.20 per pound, while another sold the same for USD 2.80. One fisher argued “some acopios are choking the fishermen.”

The remuneration of small-scale fishers depends on a number of matters: gear type; whether the fisher is boat owner, captain, or crew member; whether the fisher works directly for the processing plant or through an acopio; and the amount of debt a fisher has. The amount of debt is partly dependent on the number of traps that can still be used from the previous year and the fisher’s savings. The cost of a regular trap is USD 12, a big trap USD 25. Investment in traps therefore could require an annual investment of around USD 3,000. Fishers often finance this large annual investment with credit from the acopios. Acopios, in turn, depend on processing plants to help them with the supplies, credit, and fuel. A fisher

![Fig. 6.1: Wooden skiff used for small-scale trap fishing, Corn Island, Nicaragua.](image)
Source: Author

![Image of wooden skiff used for small-scale trap fishing, Corn Island, Nicaragua.](image)
with an investment of 250-400 small traps ends up spending between USD 3,000 and USD 4,800 per season. Interviews with captains indicated they had between USD 2,400 and USD 4,800 in debts to the acopios for trap investment.

The following illustration (Fig. 6.2) shows two receipts of payment to a fisher by one of the acopios in 2003 and 2008 (to the same fisher by the same acolio). The receipt from July 2003 (Fig. 6.2a) shows the debts the fisher has to the acolio. At the end of the season he has a debt of USD 449.66 to the acolio (loans are taken out in USD as inflation is high in Nicaragua). The loan was taken out to buy 20 traps on the 31 January 2003.

The second invoice from 2008 (Fig. 6.2b) shows the lobster was graded A and B. Grade B means imperfect lobster tails (damaged lobster tails). Five percent is deducted from the total amount by water weight, 25 percent in taxes, and there are further deductions for fuel and bait. This leaves the fisher with a total of nine pounds of lobster = USD 34.40. This is roughly USD 3.80 per pound. From this amount, however, he has not yet paid his crew, and his deductions towards his debt to the acolio are not included.

Lobster prices have fluctuated over the past years. In 2007, when international lobster prices were at their highest, fishers could receive up to USD 13.50 per pound. By 2009 this figure had dropped to USD 10.50, while fuel prices were rising. Considering fishers have to pay off their debts they might only make a profit of between USD 2 and USD 7 per pound, depending on the catch, their debts, and fuel prices. Interviewees indicated that the large majority of small-scale fishers are indebted to either acopios or processing plants.
On Corn Island there is a Fishing Union for trappers with 40 members, who are mostly Creole, and a Miskito divers organization with 80 members (this covers around 30 percent of the total number of small-scale fishers). Their influence is very limited, however, due to the small percentage involved out of the total number of fishers (Monnereau 2004). In recent years, the Creoles and Miskito Indians have, however, attempted to cooperate more closely in order to stand together in their mission against the processing plants, especially after the economic recession. Yet cooperation between the divers and trap fishers at times can prove difficult.

On Corn Island in the summer of 2009, I witnessed a trap fisher coming in from sea who was instantly taken into custody by the police, as he had hit a diver with a spade out at sea that morning. The fisher had discovered the diver when he resurfaced after having illegally emptied the fisher’s traps. In an instant the fisher had grown furious and struck the diver with a wooden spade, rendering him unconscious. The captain of the diver’s boat became scared and had made off, so the trap fisher ended up taking the diver, who had regained consciousness in the meantime, back to shore.

Fig. 6.3: Trapper who hit a diver at sea for lobster theft and knocked him unconscious is taken to the police.
Source: Author

Small-scale divers

Small-scale divers work out of Corn Island as well as the Miskito Keys. They usually work from wooden or fiberglass skiffs, and are day fishers who leave early in the morning and return in the afternoon. The divers will use scuba tanks which are filled by acopios. The boat will carry the captain, the diver, and his “bubbleman.” The bubbleman assists the diver and helps him select his materials before diving: deciding the number of scuba tanks, what type of mask etc. By following the bubbles of the diver, he can signal the captain how to track the diver, and will ensure they are in the right place when the diver surfaces with the lobster. The divers use between ten and sixteen scuba tanks a day, and dive to a depth of 75-150 feet (25-50 meters). Most divers work with only minimum equipment: mask, fins, tank, and a
regulator. Almost none of them have depth or tank pressure gauges and only a few have diving watches.

The divers dive around the coral reefs and hook the lobsters that are hiding in the rocks with a metal stick with curved point at the end, known locally as a barria, retrieving them from their hiding places. The lobster often dies as a result of the sharp hook, although some remain alive for a few hours longer. Divers will usually not bring ice to keep the product fresh. Intermediaries on the Keys, however, will use ice because they need to keep the product in good shape until the boat comes from Puerto Cabezas to retrieve the lobster.

The majority of small-scale divers work the entire season: 86 percent have indicated they work more than six months a year, while the fishing season is eight months a year (Ehrhardt, 2005). Interviews suggest small-scale divers generally work full-time because they go out six days a week if the weather permits. Eighty percent of the small-scale divers are Miskito Indian (Ehrhardt, 2006), the remaining twenty percent are mestizo, Creole, and Garifuna.

![Fig. 6.4a: Air compressor at an acopio on Corn Island, Nicaragua.](image1)
![Fig 6.4b: The diver is sitting next to his diving tanks.](image2)

The divers’ profits depend on whether they own their own scuba tanks and/or boat. Most divers are not boat owners, so during a fishing expedition the boat owner, captain, diver, and bubbleman need to be paid. An owner (if not the captain) pays the captain USD 1.20 per pound, while the bubbleman gets USD 0.80. The owner and diver subsequently split the profits 50/50. If the captain is the boat owner, they first pay the costs of fuel and tanks, and then split the remainder 50/50. If the diver doesn’t own scuba tanks, filling the tanks and use of the tanks are also charged by the acopio and the costs will be added to the bill. Acopio owners, the owners of the small businesses who work as intermediaries between fishers and processing plants, state they will deduct 25 percent from the fishers profits. They will deduct
the 25 percent from the profits made by fishers towards their bill unless the catch falls below 20 pounds. Of this one particular mixed acopio on Corn Island, where both trap fishers and divers work, there are 20 divers and 23 boats. Of these 23 boats, in only 2 cases are divers the owners; there are 19 captains who are owners and 2 owners who do not go to sea but send people out.

In addition to the acopios and processing plants on Corn Island, as is also the case with the small-scale trappers, divers can sell their product to the “bucket ladies” on the island. These women have made no investments, and fishers are not indebted to them, so the price fishers receive will be higher. The women will, however, not be able to provide the fishers with credit for fuel, fill scuba tanks, or provide any other form of support. They do, however, provide a way to make some quick cash without fishers having to pay off their debts in the process.

In Puerto Cabezas and the Miskito Keys fishers can sell the lobster through a variety of channels: 1) official acopios (financed by processing plants); 2) unofficial intermediaries, financed by processing plants; and 3) self-financed unofficial intermediaries, often providing multiple services. The acopios were often originally officially part of the processing plants but are now independent entities (as the plants do not want to be held responsible in case of diving accidents). Yet when speaking about these intermediaries, processing plant owners do talk about “our acocio on the Keys” indicating a sense of ownership. The intermediaries are therefore directly linked to one of the processing plants; the supply boats come often to bring ice, fuel, and supplies, and pick up the lobster. On the Keys there are 14 official acopios (Kuninski 2004).

In the summer of 2008, I went out to the Miskito Keys with one of the supply boats of the processing plants. This boat, the “Blue Sun,” which in fact was painted green, took eight hours to get to the Keys. Faster boats can do it in 45 minutes. The “Blue Sun” was filled with large barrels of fuel, drinking water, food supplies, and a complete freezer hold full of ice. Dozens of men and women come on board for the journey, fishers and female traders who need a ride up to their little houses on stilts in the Keys. In the middle of the sea, close to several wooden houses on stilts, we drop people off, and from everywhere boats appear with fishers and traders who want to get ice. When the sun is setting we get to one of the main houses on stilts on the Keys, which also serves as a shop. I get a nice meal of rice and turtle, the local delicacy. A huge turtle is actually flapping on his back right next to where we are sitting, waiting to be slaughtered when the time is right. He’s protected from the sun by plastic sheets carrying the logo of USAID. I have doubts USAID, probably having supplied the protection material after Hurricane Felix the year before, would be content knowing it was used help locals eat endangered species. Sitting next to the remains of the church of the Keys, four concrete poles sticking out the water, it is impossible not to talk about Hurricane Felix. Hurricane Felix is believed to have killed between 170 and 230 people on the 4th of September 2007. The fishers and women tell tales of tying themselves to trees or boats in an attempt to withstand the category-five hurricane. The police claimed they had given warning but that the residents had chosen to ignore it. Some claimed they never got the message. As the warning had arrived in the late morning, many fishers had already gone out fishing and there was no way to contact them. Most of the victims, however, were women, as these traders and prostitutes had no way to get back to shore, as all boats had filled up quickly. Everywhere on the Keys you could see wooden sticks rising from the water where once people’s houses had stood.

The unofficial acopios are less capital intensive. These are, for example, female traders buying lobster from fishers, but in lesser quantities. They do not give out ice or fuel but do supply credit if needed. These women sometimes live on the Keys, while others only come to trade. These unofficial intermediaries are self-financed (not by processing plants).
Women also often work at the pier in Puerto Cabezas where the industrial lobster diving boats arrive. They are argued to also be involved in selling drugs to fishers or in providing sexual services (Kuninski 2004). The women supply the fishers with some cash advances prior to fishing, but force fishers to sell their catch to them afterwards.

In RAAN in the north, Miskito divers are better organized in SIBURAAN with 700 members. There are several other organizations in RAAN; all organizations are under the umbrella of UNOPARAAN (Kuninski 2004). Their influence on management is considered to be limited, however.

**Industrial trap fishers**

There are over 50 industrial boats active on the coast of Nicaragua. These are based in Bluefields and Corn Island; according to Ehrhardt they employ 716 trap fishers (2009). The total number of traps is approximately 207,900 (Ehrhardt 2006), but making a proper estimate is often difficult as industrial trap boats often have more traps than the maximum allowed (2,500). One captain indicated he had 2,700 traps, for example, while another told me he used 3,500 traps. These industrial boats are at sea for 45 days, the longest time spent at sea of any fishing métier in Nicaragua. Lobsters are tailed and subsequently frozen in the freezer hold on board the ship. It is prohibited for industrial boats to enter within the first 25 nautical miles of Corn Island and the Miskito Keys, a zone reserved for the small-scale fishers. Small-scale fishers complain nevertheless that the industrial fleet also fishes in these waters.

Approximately eleven to twelve fishers work on board during this time: a captain, second captain, cook, *winchero* (the winchman, i.e., the fisher handling the winch), *catchero* (fisher who tails the lobster), and the rest is regular crew. The crew pulls 1,000-1,200 traps every day. The captain has a book with all locations on the GPS of all the strings of pots. There are 25 traps per rope, in strings of 125 traps.

In January 2007, I spent a few days on two trapping industrial vessels leaving Corn Island (one day on the industrial boat “The Pacific Wave” and three days on the “Lucky Star”). When I left Corn Island with “The
Pacific Wave” we had to travel fourteen hours to reach the fishing grounds as they were far and the winds fierce. I had been told there was a strong northerly wind, but I didn’t quite realize how severe it was until I was on board and we were on our way. The waves pounded the ship covered in darkness. As we could see nothing in the gloom while the ship pitched and rolled, I thought I had entered hell. There are few times in my life I have been more scared. Yet staying with the men and talking about fishing helped ease my nervousness. The comment “You are tens of kilometers out of the coast, in the night, on a large ship during a northerly storm, what did you expect?” was also enough to kill any complaints I might have expressed towards captain or crew.

Besides the regular crew we had one fisher, Ricardo, on board who used to own his own fishing boat. This boat had, however, recently broken down and he now needed to pull his traps. Another captain from the industrial boat “Nica 23” had agreed to help him pull his traps for a percentage of the catch. We therefore had to bring Ricardo to this captain known locally as “El Cubano.” El Cubano was famous for his success—with the highest catch rates for years any captain had achieved—but also for his rudeness, and aggressive and difficult behavior. He was also notorious for once having fallen asleep in the bar after he had returned to shore with 10,000 dollars in a paper bag on the table, which he had just earned from fishing. He had been too drunk to put it away and had gone to the bar with the paper bag filled with money. The captain of the “Wave” tried to bring the boat alongside El Cubano’s boat so Ricardo could cross. As we were facing some heavy winds, however, and very high waves, the captain tried for about an hour in the dark so Ricardo could cross but he just couldn’t. At one point, however, he had already thrown his backpack across to El Cubano’s boat with all the GPS locations of his traps. As he wasn’t able to cross during that night he kept swearing and worrying all night that El Cubano would go and pull all his traps; he would not only be able to steal the contents but the traps worth thousands of dollars as well. I never found out whether this happened or not, as I had already left when they came back weeks later. But I would never underestimate the value of the GPS bible.

The captain of the “Lucky Star” explained to me that all captains have their favorite spots and fishing grounds, and that you do not interfere with another man’s fishing spot. Everybody knows each other’s spots so you don’t interfere with their pots and “get them all tangled up.” Interviews with captains indicated they have informal territorial rights to certain fishing areas. A Honduran captain who works on one of Nicaragua’s industrial trapping boats explains:

The way the buoys are set, for example big-small-small, makes clear who the traps belong to. As the same boats always fish in the same area, you can tell who which traps belong to. So when you steal them or empty them, you pretty much know who you are stealing from. And while you are officially allowed to fish anywhere, you have to stay in your own area. Once I tried to fish in one of El Cubano’s areas and he got extremely angry with me. He laid his boat up alongside mine and told me “to fuck off,” which I did.

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110 It would require more research in order to establish to what extent the captains really have established territories and to what extent they enforce these informal rules.

111 Interview E20: 13/06/2009
The industrial fishers are at sea for 45 days at a time, and are therefore employed full-time. They usually only spend two to four days on shore before returning to sea for their next trip. Ehrhardt concluded that 95 percent of the industrial trappers work over six months of the year (the fishing season is eight months). The fishers work as if on an assembly line in a factory rather than being at sea. The crew has divided the work into different jobs: helping the *winchero* retrieve the traps emptying the traps, cleaning the traps, repairing the traps, stacking the traps, baiting the traps, and so on. The types of jobs also depend on whether they are retrieving the traps from the water or putting them back in. The fishers work in a rotating system whereby each crew member will do one of the jobs for two days, and then change to the next job. On industrial trapping boats 47 percent is Miskito; the remaining fishers are either Creole or mestizo (Ehrhardt 2006).

The fishers get up at 1.30 AM, get a cup of hot tea or coffee and start working at 2 AM. They won’t get proper breakfast until around 5-6 AM, with lunch served at noon. Lunch will often consist of a rice dish with fish. The fishers also set six fish traps made from chicken wire that they only use to catch fish for dinner. The fishers will work until around 5-6 PM and have only an hour or so for leisure (which mostly consists of hanging around a bit on deck, smoking a cigarette, or trying to catch fish with a hand line) before going to sleep. They all sleep on thin mattresses in the kitchen area or steering hut. Only the captain has his own private quarters, as well as a private bathroom (which in the case of my trip he never used, because it would just clog up, he said). The fishers use a box at the rear end of the boat as a toilet. Even though the work is for 45 days straight, sometimes the sea would be so rough that the fishers had no chance of working, and then the boat would just anchor and everybody would just spend the whole day sleeping.
Rene Alvarez (1971) from Honduras is the captain on the “Lucky Star.” He has been a captain since he was nineteen, which is very early to be a captain, he says, but he started as a crew member when he was twelve. He did little jobs on board and helped where he could while growing stronger. His uncle was a captain and taught him how to be a captain. Where the best fishing grounds are, how to deal with the crew, and everything else, he explains. In 1990 he became a captain on a diving boat, but has now been working on a trap vessel boat as a captain for six years.

Officially all boats fly the Nicaraguan flag. Prior to the nationalization in 1994, many vessels were from Honduras and Columbia. Although these vessels now fly the Nicaraguan flag, they are still considered to be “foreign.” Even a processing plant owner I talked to stated he had “seven foreign boats and fifteen Nicaraguan boats” working for his plant. The differences between the two are obvious, and usually the foreign boats get a higher price per pound (otherwise they would go to Honduras). The average price per pound for industrial boats is USD 13 (USD 2 more than small-scale fishers receive). They are also better equipped and maintenance is better. Working on a “foreign” trapping vessel is therefore nicer for the crew than working on the run-down Nicaraguan boats.¹¹²

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Figure 6.7: Aboard the “Lucky Star.” Crew on the left is preparing slats to repair traps. Crew on right is waiting to reach a string of pots.

Source: Author

A captain can make up to USD 6,000 per 45-day trip, although USD 3,000 appears to be more common. I have heard many a story of captains spending all their money in just three days once they were back on shore, before heading back to sea. The processing plants own the majority of the industrial fleet. On industrial ships the captain is hired by the boat owner (there are only a very few boats that are captained by the actual owners). From my fieldwork I

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¹¹² Because of the limited capacity of Nicaraguan boats and their run-down equipment, these boats only go out to sea for around 20 days. When I write about 45-day journeys, I am thus referring to the better equipped and larger boats.
have found the arrangements between the boat owner and captain, and between captain and crew to be as follows:

- The owner pays for fuel, traps, bait, buoys, rope, and all further expenses.
- The captain is paid 25 percent of the total turnover (pounds x USD 13-15). From his share he pays for food for the crew (which can be anywhere between USD 1500-3000 depending on the captain) and the salary of the crew. Usually the crew averages twelve men besides the captain: a first mate, a cook, a winchero, and nine other crew members.
- The second captain is paid USD 20 per 100 pounds.
- The cook is paid USD 12 per 100 pounds.
- The winchero (the sailor handling the winch to haul the traps) is paid USD 11 per 100 pounds. He is paid more than the other crew members because the work is very dangerous (the winchero can easily get entangled with the ropes and thrown overboard), the work is straining as you are basically wet all day while the winch is very hot, and the job requires precision.
- The crew receives USD 10 per 100 pounds.

With a catch of 2500 pounds (one that is not very high but not bad either) for an industrial ship, this works out as outlined in the following table. This was the catch of the industrial boat I was on in January 2007:

<table>
<thead>
<tr>
<th></th>
<th>Owner</th>
<th>Captain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75%</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>24,375</td>
<td>8,125 (gross)</td>
</tr>
<tr>
<td>Food paid by captain</td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Crew</td>
<td>250 x 9</td>
<td>2,250</td>
</tr>
<tr>
<td>Cook</td>
<td>25 x 12</td>
<td>300</td>
</tr>
<tr>
<td>Winchero</td>
<td>25 x 11</td>
<td>275</td>
</tr>
<tr>
<td>Second captain</td>
<td>25 x 20</td>
<td>500</td>
</tr>
<tr>
<td>Captain is left with</td>
<td></td>
<td>2,800</td>
</tr>
</tbody>
</table>

**Table 6.1: Division of proceeds (in USD) on an industrial ship with a catch of 2500 lbs of lobster tails at a price of USD 13 per pound.**

The captain obviously receives the biggest share of those on board, in this case USD 2,800, followed by the second captain, cook, and winchero. Ehrhardt finds trapping crew members make approximately USD 600 on average per month (Ehrhardt 2006). My findings suggest this is generally lower, with crew members receiving USD 250 for 45 days. This difference could be due to the fact the volume of catch was considerably higher in the years Ehrhardt compiled his data. Considering the crew work at least fourteen hours a day, and taking off two days for rough weather and two for coming and going, this leaves us with a total of 574 worked hours. Dividing the hard earned USD 250 by 574 hours you can see fishers actually do not make more than USD 0.44 per hour. However, because crew members are only at shore for two to three days at a time it might appear to be a lot of money.

Piracy, whereby industrial boats are entered by criminals on small-scale boats in order to steal their valuable cargo, takes place. This mostly happens during the last part of their 45-day trip when the freezer hold is full of lobster. As industrial boats need to give their location to the coast guard every day, criminals know exactly where to find each boat. During 2001-
2004 piracy\textsuperscript{113} appeared to be very commonplace, and affected around ten percent of the boats. Many captains I spoke to at that time (for my MA research) told stories of being hijacked and having to surrender the lobster catch. Another spoke of losing a crew member who was shot by pirates. According to government officials, processing plant managers, and fishers, piracy has decreased significantly since 2004, when undercover military were placed on board the boats for some time.

That piracy occurred made me—and, as I later discovered, also my captain Rene—slightly nervous on board the “Lucky Star.” I had been brought to the “Lucky Star” by the “Pacific Wave” which was heading out to sea. The “Lucky Star,” on the other hand, was in its last days at sea and the freezer hold was full. The captain communicated every day about my presence on board the ship to the processing plants, mostly reporting that “the marinera\textsuperscript{114} is laughing, writing, and eating so she must be OK.” The fact my presence was so noticeable by all of those involved in the industry made me slightly nervous. Having a young white gringa on board, in addition to a freezer full of red gold, might be an even greater temptation to the pirates. Although the captain denied he was worried about the pirates when we were at sea, once we were back on shore he said he had been anxious about a pirate attack.

The industrial vessel owners of the Atlantic coast of Nicaragua are better organized in the Camera De La Pesca (CAPENIC) (see also Chapter 3). This organization advises the government regarding management of the fishery. The APAN consists of the plant and vessel owners of Puerto Cabezas. The objective of APAN is to tend to the interests of the vessel and plant owners of the RAAN. Although the processing plant owners and industrial boat owners (often one and the same) are competitors, they generally agree on management issues. It is therefore easier for them to express a shared view on management decisions that should be taken by the government. In addition, due to their economic and political power it is easier for these members both to confer with government officials and to be taken seriously. CAPENIC thus has a large influence on the management of the fisheries in Nicaragua. Industrial vessel owners are therefore well organized and able to influence management (this also applies to the industrial diving fleet). Nevertheless, it’s only the owners who are well organized, not the actual fishers on the boats.

**Industrial divers**

The industrial divers work from large boats that are stationed in Puerto Cabezas. There are 26 diving boats, with an average of 57 people on board (this figure can be higher), which gives a total of some 1496 divers. The boats generally carry 30 divers, 30 bubblemen, nine crew, an engineman, captain, first mate, cook, and a cook’s mate, for a total of 74 people. Other interviewees have indicated it can be as many as 80, however, if a boat carries more crewmembers. Talking to one captain he said his boat had 68 people on board: 25 divers, 25 bubblemen, and eighteen other crew members (the captain, first mate, mechanic, compressor mechanic, cook, cook’s mate, the ice man, his assistant, the man who tails the lobster or catchero, and so on).

\textsuperscript{113} As these criminal acts are actually committed within the EEZ of Nicaragua, it is not officially “piracy” as this needs to take place outside of a nations’ EEZ. Yet because all interviewees, reports and newspaper articles talk about “piracy” I also speak of piracy when referring to these criminal acts.

\textsuperscript{114} Spanish word for female sailor.
The boats leave for approximately three-week voyages. Losing a 21-day journey on a boat means not having work for nearly a month in a region where very little other employment is available. A diver who had arrived late and found another diver had already taken his space was really bummed out. He wasn’t there when the coast guard had called out his name on the list, and he told me he was sad, as he really needed the money.

![Fig. 6.8: The “Dyani II” leaving the port of Puerto Cabezas.](source: Brad Allgood)

One day on the pier of Puerto Cabezas in August 2008, I witnessed a diving boat going out to sea for a 20-day journey. The boat spent the whole day loading food, supplies, fuel, and ice. As more hours passed, the pier became increasingly busy with people. These were often the divers, the bubblemen, the crew, and family members waiting to say goodbye to their loved ones, hoping they would return safely. Other people at the pier were kids selling wooden rowing paddles and diving masks, and women selling cookies, as well as offering to give divers an advance if they would sell them their “last dive pickings.” The “pickings” are the catch of the divers on their last day on board (often between 3-7 pounds) and which they are allowed to keep. The female traders will buy it for around half to three-quarter of the price they will receive at the plant. The coast guard came to call the names for those who would board the vessel. The fishers were happy to have a second extra priest on board.

The divers are mostly Miskito Indians (91%), and the remaining fishers are Creoles or mestizos (Ehrhardt 2006). Most industrial divers (70%) work over six months of the year, while 15 percent only work five months, and 6 percent four months. In comparison to the labor participation of small-scale divers, small-scale trappers, or industrial trappers, this figure is low (Ehrhardt 2006). It implies large-scale underemployment of industrial lobster divers is common, and that divers are in strong competition for the jobs available. One can witness this in the chaotic and large crowds of divers trying to get a place aboard the next diving boat. The divers at the dock in Puerto Cabezas scream and shout and at times have to be held behind fences in order to keep the crowds from overrunning the boats in order to get a seat onboard.
The diving boats are the most productive in volume of the two industrial fleets (Barnutty 2006). A diver on an industrial boat earns on average USD 280 per month (Ehrhardt 2006), only half of what a small-scale diver makes.

As the resource has become increasingly difficult to catch in recent decades, due to overexploitation, divers have had to dive to ever-increasing depths. While in surveys carried out by Ehrhardt (2006) 95 percent of the divers were aware there is danger involved in how they make a living, only 20 percent have received any sort of training (Ehrhardt 2006: 3). Ehrhardt has shown (2006) that the average number of tanks used by divers increased from five in 1987 to nearly sixteen in 2005. Similarly, the depth dived to has increased from 24 feet (7.3 m) in 1987 to 140 feet (42.7 m) in 2005.

For eight months of the year, divers use between eight to sixteen scuba tanks a day while diving up to 150 feet (45.7 m) (Ehrhardt 2006: 3). A study on 229 decompression sickness (DCS) cases among the divers in Honduras and Nicaragua revealed that divers would dive up to depths of 192 feet (58.5 m) using up to eighteen tanks ((Barrett and Van Meter 2004: 351). Research on board the industrial diving vessels indicated that the incidence of “mild” DCS in the group on board a single trip was 75-100 percent. Divers reported fatigue, dizziness complicated by ear barotraumas, generalized pain, and back pain (Barratt and Van Meter 2004).

Although one might expect that fishing for sea turtle in dugout canoes in the 1600s— without outboard motors, lifejackets, GPS, or cell phones—fishers would be more prone to health hazards than current lobster fishers, it is contemporary lobster divers that bring priests on board to counter the ever-present danger. In order to ward off the constantly looming danger of paralysis and death, divers will bring their own priests on board. Fishers leave very
early in the morning from the boat with their canoe, bubbleman, and their first set of diving tanks. Before setting out to sea they all congregate and sing hymns and pray together to ward off the dangers associated with the diving industry, and the illnesses related to diving. One explanation by the Miskito Indians for the high accident rate is that the liwa mairin, a spiritual being who lives in the ocean and fresh water, guards her natural resources anxiously. As fishers are increasingly overharvesting the resource, she attacks the fishers by crippling them (Dennis 2003: 166). Some divers claim to have seen her, although the World Bank report (1999: 43) suggests this is likely due to nitrogen-induced hallucinations.

Belief that ritual practices (e.g., taboos) and/or supernatural beings can shield one from the effects of the dangers can function to reduce perceptions of relative risk or improve resultant stresses (Pollnac and Poggie 2008: 195). Malinowski is famous for implying that the more dangerous fishing becomes, the more rituals are practiced by the fishers. “It is most significant that in the lagoon fishing, where man can rely completely upon his knowledge and skill, magic does not exist, while in the open-sea fishing, full of danger and uncertainty, there is extensive magical ritual to secure safety and good results” (Malinowski 1948).

At the large dock in Puerto Cabezas I have witnessed divers fervently speaking for an hour with the capitania (coast guard crew) to secure the presence of two priests on board to circumvent danger. The priests are paid every day by the divers to pray and sing songs with them before they leave to fish in the morning. While the sun is rising, the priests and divers pray to God and sing hymns asking Him to prevent any danger befalling them that day. Their presence has, however, not prevented tens of divers from dying and hundreds from suffering severely from DCS.

The divers lack such things as pressure gauges, timers, and depth meters, and the air in the tanks is often “dirty.” As they are unable to check the remaining pressure in the diving cylinder, when they feel their air supply is running out they will quickly ascend to the surface. In addition, making ten to sixteen ascents and descents a day is very hazardous for a diver’s

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115 The second priest was not on the list provided by the captain to the coast guard, and when the evening fell and all fishers were called out by the capitania to go on board, they were not eager to let the extra priest aboard. Finally, when the coast guard caved in, all the fishers cheered and the priest climbed on board.
health in general and makes him more prone to DCS. As divers are paid by the pound, they will often ignore minor decompression symptoms, and only raise concerns when they feel significant pain or when it is too late. While some victims only suffer minor injuries, but will constantly feel pain in their joints, others are less fortunate and left paralyzed or dead.

A report by the Association for the Integration of the Disabled in Puerto Cabezas stated there were 1,500 cases of injured divers up to the year 2002 (Dennis 2003). The US embassy’s 2007 Human Rights Report claims that in January-October 2007 no less than 34 divers died as a result of their work. The ILO states in a 2002 report that each year ten percent of divers suffer from decompression illness, and over 50 percent of divers have suffered from a diving accident (US Human Rights Report 2007).

Even those who are “only” paralyzed will often die in the end. They are often left incontinent and, as they are unable to feed their families, they are usually abandoned by them. Paralyzed divers therefore have no means to pay for antibiotics to treat infected bedsores, or do not have the luxury of keeping off the bedsores, as they need to beg in the streets for money. Yet the circumstances of the Nicaraguan lobster fishers are very disparate, and these conditions are not applicable to all fishers. One way the divers ward off danger is by snorting cocaine while diving at sea, which is supposed to be a common practice among divers (Dennis 2003: 166). Cocaine, however, creates a serious health risk, as it impairs judgment and affects the cardiovascular system (Dennis 2003).

In 2001, ten divers died on the coast as a direct result of diving accidents (Acosta et al. 2002). Currently this figure is believed to be significantly higher, but no hard data are available, although Dennis refers to a report that states 1,500 disabled divers are currently present on the coast due to the diving industry (2003: 166). The 2007 US Human Rights Report states that in January-October 2007 34 divers died on the Nicaraguan coast due to diving accidents. In addition, there are also incidents where the bubblemen lose sight of the diver and are not able to relocate him. As one fisher told me, “If you stare into space, or the...”

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116 Decompression sickness (DCS), commonly referred to as “the bends,” is a condition caused by exposure to excessive depths and pressures, remaining at depth too long, or ascending too rapidly.
waves are high, and you lose track of the bubbles, you don’t know where he is going to surface.”\(^{117}\) The rewards of this hazardous profession, with the ever-present danger looming above the fishers’ heads, were neatly expressed, however, by one fisher: “If you don’t die, you make a lot of money.”\(^{118}\)

The processing plant will usually pay for the use of a decompression chamber, or pay for the funeral; no social security for the longer term exists, however, if the divers survives. Social security is available for a number of people. Yet, very few fishers make use of it, not only because it costs money every month, but also because fishers need to produce documents (birth certificate, ID card, etc.) which they often do not have. Fishers are therefore reluctant to get social security as they don’t know how much their family or they themselves will benefit in the end.

Chances for survival are even more challenged because of the long time it often takes divers to reach a decompression chamber. In the US, divers suffering from the bends are advised to use a decompression chamber within five minutes of surfacing. The Nicaraguan divers are lucky if they reach shore within fourteen hours. More often, if the diving trip (normally lasting up to twelve days) has just started, injured divers will have to wait until the diving trip is over, severely limiting their chances of survival. The chances of survival for small-scale divers are therefore assumed to be higher than for industrial fishers.

In the streets of Puerto Cabezas and other coastal towns one will usually see crippled divers walking with crutches, or in wheelchairs. Some divers will use drugs, most commonly alcohol, marihuana, and cocaine (in the form of crack) to overcome their fear of going down. These also decrease the pain divers frequently suffer in their joints from diving, and stimulate fishers to go down again, despite the danger involved. Yet the use of these drugs also increases the chance of divers suffering from DCS, creating a vicious circle. Research by Ehrhardt (2006) indicates that for every fishing season (9 months at the time), 32.1 percent of the divers (both industrial and small-scale) have suffered from some type of decompression sickness. According to Ehrhardt (2006: 41) this only makes the crab fishery in the Bering Strait more dangerous than this occupation.

Ehrhardt has estimated that in the industrial diving industry a total of 3,680 scuba tanks are used. The MITRAB (\textit{Ministerio del Trabajo})\(^{119}\) has the authority to inspect and guarantee safety regulations in the workplace, while the Ministry of Health has a clear policy to prevent decompression syndrome, while the INSS (i.e., National Institute for Social Security) can oblige employers to pay for insurance to cover illness, injury, retirement, or death. Yet divers are often considered to be independent divers for whom no company feels responsible. They often do not pay INSS coverage themselves, while processing plants also fail to do so for the divers. They claim they are “independent divers” who are responsible for their own safety. The MITRAB has in fact argued that its failure to address the high accident rate of lobster divers is because it is an informal activity, and divers consume drugs and alcohol (Acosta 2005: 189). Divers live far away and face linguistic and cultural barriers and lack of awareness about laws, social security, and national institutions, making the enforcement of labor legislation pertaining to divers all the more difficult (Acosta 2005).

\(^{117}\) Interview E22: 14/06/2009
\(^{118}\) Interview E18: 12/06/2009
\(^{119}\) Ministry of Employment.
6.3 Economic alternatives: the white lobster
Lobster fishing is of great importance on the Caribbean coast of Nicaragua, as few economic alternatives exist in the region. Yet fishers also move in and out of fishing, and engage in other activities. The following box describes a lobster boat I fished with on a few occasions, whose fishers ended up in other professions at a later stage.

In 2004 I went fishing on a lobster fishing boat on Corn Island with the father of my guest family on the island, and his son, grandson, nephew, and neighbor (in the picture below from left to right: the son, neighbor, grandson, and nephew).

Eight years later all had moved out of fishing. The captain is now a trader, trading shrimp and coal from Pearl Lagoon to Corn Island. He complained he didn’t have anybody to go fishing with him anymore, as all had moved out of fishing, and the lobster catch didn’t enable him to get outsiders to work for him. The son had become addicted to crack and was no longer to be trusted. He died in 2011, after he had become paralyzed after falling from a tree a year previously in an attempt to steal bananas. The grandson had been working on a cruise ship as a crew member for four years, making a decent living but only returning to the island a few months a year. Eddie, the nephew, moved to Pearl Lagoon where he is now a farmer. And Justin, the neighbor, turned to the drug trade and has spent the last few years in jail, as he was caught with drugs, cash, and guns at sea.

This example shows one of the other important economic activities on the coast: the cocaine trade. Locals are currently heavily involved in this illegal activity (Dennis 2003). The region is neatly located between the largest cocaine producers (in the Andes) and the largest outlet, the United States. Coastal areas might be especially prone to illicit activities. “The sea is bigger, emptier than the mountains and the forests” (Scott 2009: xiv).

Nicaragua’s isolated, impoverished Caribbean coast, unpopulated dense jungle areas, and numerous inland waterways make it a haven for drug traffickers. During the Sandinista period, from 1979 to 1990, drug use was strongly forbidden, and the entire coast was heavily controlled by the military and police (Dennis 2003). The military presence made drug smuggling nearly impossible. However, after the end of the civil war the military presence on
the coast was reduced and cocaine smuggling began to increase (Dennis 2003). Cocaine, better known locally as the “white lobster,” has been heavily traded along the coast since the beginning of the 1990s.

The socioeconomic circumstances make it even more ideal, as those living on the Caribbean coast in Nicaragua have learned from an early age to manage boats and navigate the sea. And as lobster fishing profits have been diminishing rapidly in the recent decade because of overexploitation, the drug trade has become a profitable economic alternative for many fishers. My research indicates that Nicaraguan lobster fishers take part in the cocaine trade in three different ways: a) finding drug packages along the coast or at sea, b) supplying fuel to drug traffickers running up and down the coast, and c) working as drug traffickers.

When I started conducting my research on the lobster fishery in Nicaragua in 2001 as an MA student, I was unaware of the involvement of fishers in the drug trade. Yet this quickly changed as fishers continuously talked to me about “being lucky.” I would ask them about the best fishing season, and they would then tell me about the best lobster season, as well as the best time to find packages of cocaine at sea. The drug runners throw the illegal product overboard when chased by Drug Enforcement Administration (DEA) planes or the occasional patrolling vessel from the US, or by the Nicaraguan coast guard. These packages of cocaine either wash ashore where they are found, or are found by fishers at sea. The fishers will sell them for around USD 3,000 to USD 3,500 per kilogram. The drugs are packaged in one-kilogram packets wrapped in waterproof plastic. These separate packets are bundled together in larger packages. The tides makes certain places more likely ones to encounter drugs, and although it is perceived as being “lucky” a certain level of skill is involved for those who actually attempt to find it in certain currents.

When there has been a DEA plane or boat chase, fishers will know about it, and they will discuss the currents and possible locations. Fishers would often talk about other fishers or themselves as being “lucky,” about how many kilograms they had found, and about the boats their fellow fishers were able to buy with this “salt money” or “white lobster.”

In January 2007 I spent three days on board an industrial trap boat. The captain, called Juan, had found drugs three times in his fishing career up until then (2 x 20 kg, 1 x 50 kg). He has sold it for USD 3,000 to USD 3,500 per kilogram, and told me he received 50 percent, while the crew divided the other 50 percent. He told me that he would be the one going to jail if they were to get caught, and so thinks that it is only fair he gets half. With the money he earned he bought an extra house in Honduras. Juan also explained that a few years ago industrial boats would refuel the drug traffickers running up and down the coast. During a 45-day trip an industrial boat would be able to refuel the drug traffickers five times. The captain would get USD 20,000, and the crew would each get USD 5,000 but the owner of the boat might get USD 300,000. They would get the fuel from Bluff. Juan also told me about another captain who is notorious for finding drugs. He would find it and then turn it into crack to make even more money.

Two years later I attempted to find the same captain again on Corn Island. I was told by the another captain that Juan “has now gone to work for the Colombians.” I asked a few more questions and it became obvious my former informant had now become a drug runner transporting drugs up and down between Colombia and Mexico.

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120 Not his real name.
121 Bluff is a refueling port with processing plant facilities close to Bluefields on the mainland.
122 Crack cocaine is the freebase form of cocaine that can be smoked and is the most addictive form of cocaine (http://en.wikipedia.org/wiki/Crack_cocaine, accessed 3-11-2011).
Fishers provide fuel for drug runners. Drug runners travel up and down from Colombia to Mexico and therefore need substantial amounts of fuel. Drug runners need to make pit stops along the coast. Fishing boats (both small-scale and industrial) are the ideal place to hide extra fuel, and many fishers make money this way. Fishers can become drug traffickers themselves, as they are very familiar with the coast, boats, and sea. In my research on the lobster fishery on Corn Island I have found a number of fishers that purposely entered the business.

Residents still talk about the “white Christmas” of 2003 when the entire community of Little Corn benefited from one of Santa’s cocaine droppings. The story was repeatedly told of a drugs boat that had been pursued by a DEA plane in broad daylight in December 2003, filled with nearly 1,000 kilograms of cocaine. The captain of the boat knew the area well, as it was a frequent refueling point, and he ran the boat ashore on Little Corn Island. The crew is quoted as saying, “Take what you want,” before running into the bush. By the time the police arrived a few hours later nothing of value was left in the boat. The locals had taken all of the drugs, the engines, and any other items of value.

The younger fishers on Corn Island and along the Miskito coast have been brought up in a time when finding packets of cocaine is seen as “a gift from God,” as one interviewee stated. Finding the white power is regarded by most as “being lucky.” A municipality council member told me “finding drugs is good for the economy of Corn Island.” Many fishers see it as a solution to increasing levels of poverty. This relates to the distinction by Abraham and Van (2005: 4) between “what states consider to be legitimate (‘legal’) and what people involved in transnational networks consider to be legitimate (‘licit’).”

Locals of Corn Island, fishers too, but not necessarily, are found on Facebook representing themselves as gangsters (see Fig. 6.13a and 6.13b). Presenting yourself as a “gangster” [drug dealer/pimp/criminal] holds a positive connotation rather than a negative one. The pictures below show off both the “white labsta,” as he calls it, as well as other items he might have bought from the profits. The picture on the right shows a former fisher, now employed as a cruise ship employee. He is not involved in the drug trade at all, but likes to pose as a gangster on Facebook.

Fig. 6.13a: Cocaine (called “white labsta” by the owner, and other valuable items he possesses.
Fig. 6.13b: Former lobster fisher (now employed on a cruise ship) showing off with a gun, silver chains, and mobile phone (Picture on left is not from him).
Source: Names known to author. Permission given.
The drug trade is also responsible for increasing levels of violence on the coast. In August 2008, when I was on Corn Island for a week, two drug traffickers got shot on Little Corn Island by Colombian drug traffickers when they ran into each other while refueling; one Corn Islander was shot in the knee by the police. He was arrested with 2,000 kilograms of cocaine. The house of a friend of mine on the island was burnt down, because a former employee was dissatisfied with his share of a recent drug find at sea. In August 2011, the police captured a boat close to Corn Island carrying USD 4 million on board, along with guns and other weapons. This indicates the danger that is associated with these types of illegal operations. Current events in the life of my “host mom” on the island are also illustrative. Her son died of the results of crack addiction in 2011, her nephew was cruelly tortured and killed by Colombian drug traffickers, with his body dumped on the airport runway for extra effect. Her granddaughter’s boyfriend was sentenced to two years in prison for smuggling and possession of various guns and thousands of dollars.

6.4 Job satisfaction of fishers

The last component of well-being relates to the subjective component; fishers’ job satisfaction. The survey was administered to fishers on Corn Island. The sample only includes one industrial fisher (a trapper) and no industrial divers. It is therefore not representative for all four métiers but mainly for the small-scale fleet.

Figure 6.14 shows the mean values for all scores of the five categories. The results all fall above the mid-point of 3, indicating general satisfaction with the five categories of items. Social Needs is the highest scoring category, followed by Nature, Basic Needs, Self-Actualization, and Management. Fishers score particularly high with regard to the category of Social Needs. Many of them are satisfied with the time they are able to spend with friends and family. This connects to the fact the respondents are small-scale fishers who return to their homes every day.

Fig. 6.14: Mean values and confidence intervals of job satisfaction categories in Nicaragua.
In the Nicaraguan sample only one fisher was willing to change fishing type or leave the occupation. The majority also reacted positively with regard to advising a young person to enter the occupation. Due to the extremely small number of fishers giving a positive response to the first two general questions, I was only able to conduct statistical analyses on responses concerning advising a young person to fish. However, the low level of responses to willingness to change type of fishing or leave the occupation, and high numbers of those advising a young person to enter the occupation could relate to the fact that the surveys were undertaken in an area where there are hardly any options other than lobster fishing. The economy of Corn Island depends highly on fishing, and alternatives are few.

However, fishers held negative views on the viability of the fishery in the long run. Of the 35 fishers interviewed, 32 fishers saw the future of the fishery as “bad.” Only one gave a neutral answer, and two remained positive on the prospects of the fishery. Most responded with answers such as, “It sounds like the lobster don’t have much future if we don’t do something to improve it,” and “Bad, I don’t see much future,” or “The future looks very poor, I’m scared there will be no alternatives.” At the same time most fishers did not intend to leave the fishery, and in fact stated they were very satisfied with the occupation. In fact, only two stated they envisioned they would leave the fishery. Mostly they saw themselves staying in the fishery as owners. They often stated “I really love fishing and would like to fish for the rest of my life,” “My future is good, and I will be in the fisheries to the end,” or “I don’t see much future, but I’ll have to stay in the fishery because it’s the only opportunity there is.” Others said “I don’t see much future, but this is what I make a living from so I’ll stay in it as long as I can,” and “My future is not bright but I’ll stay on in the fishery”. These answers show few fishers expect to move out of fishing, despite diminishing catches and increasing costs, both because they like their job and because few alternatives exist in the region.

The Management category scored very low. From the surveys it became clear that although only nine out of the 34 fishers believed the government did a good job in managing the fishery, they generally held the opinion it was the government’s first responsibility to improve the fishery (30 out of 340). Fifteen fishers were very negative on the role of the

<table>
<thead>
<tr>
<th></th>
<th>Advise young to fish</th>
<th>N</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Needs</td>
<td>No</td>
<td>8</td>
<td>3.54545</td>
<td>.266155</td>
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<td></td>
<td>Yes</td>
<td>18</td>
<td>3.58081</td>
<td>.373058</td>
<td>0.241</td>
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<td>Social Needs</td>
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<td>8</td>
<td>3.77500</td>
<td>.377018</td>
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<td></td>
<td>Yes</td>
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<td>3.93750</td>
<td>.227669</td>
<td>1.322</td>
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<td>Self-Actualization</td>
<td>No</td>
<td>8</td>
<td>3.70833</td>
<td>.330344</td>
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</tr>
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<td>18</td>
<td>4.44444</td>
<td>.412231</td>
<td>1.592</td>
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<td>.671116</td>
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<td>18</td>
<td>3.37963</td>
<td>.327426</td>
<td>1.747*</td>
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<td>No</td>
<td>8</td>
<td>3.37500</td>
<td>.582482</td>
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<tr>
<td></td>
<td>Yes</td>
<td>18</td>
<td>3.66667</td>
<td>.514996</td>
<td>1.282</td>
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</table>

* = p < 0.05 (one-tailed test)
government: “The fishery is manipulated by the companies,” “The government doesn’t care for the fishers,” and “The government is not helping the fishers.” The fact the government granted excessive licenses to the industrial fleet was considered as proof that the government did not intend to help the small-scale fishers.

**Conclusion**

The fisheries governance system in Nicaragua is one with hierarchical governance characteristics. Market and state are both influential in fisheries governance. Since the initiation of the lobster fishery in Nicaragua, the large processing plants and industrial fleet owners (often one and the same) have historically been very influential in lobster fisheries management. The state has shown difficulties withstanding the pressure from interest groups, such as the industrial fleet owners and processing plant owners, as these parties are both politically and economically very powerful. A small powerful group is therefore able to influence decision making, leaving very little room for other pressure groups, such as fishing cooperatives or NGOs. Market party influence over decision making in the lobster fishery has been disproportionately large in comparison to civil society actors. Yet at the same time the Nicaraguan lobster fishery can also be characterized by a deficiency in governance. There is large-scale illegal fishing, rules and regulations are rarely followed, and the lack of material and financial capacity of the fisheries administration and fisheries inspectors, in particular, are striking.

This chapter has shown the diversity among lobster fishers in Nicaragua in achieving well-being. Some fishers are able to reap high benefits from the fishery in a region where few other economic alternatives exist. Yet they risk their supreme good—their health—in their search for the “red gold.” Many fishers are also highly dependent on traders, who can be official or unofficial intermediaries, and who sometimes are directly linked to processing plants. The system in general is characterized by hierarchical and asymmetrical relationships that reinforce patron-client relationships between fishers and traders.

We can conclude that small-scale trappers are day fishers who work with three to four other fishers. Working conditions are relatively safe, as they do not go out when the weather is bad. Investments in traps is very high. Fishers at times have to take out loans of up to USD 10,000 to invest in a traps for a new fishing season. They are therefore often highly indebted to acopios or processing plants, and poorly organized.

Small-scale divers are day fishers who leave early in the morning and return in the afternoon. Capital investments are only high for boat owners. Safety is a problem for divers as many fishers suffer from decompression sickness. Divers are the mostly highly dependent on acopios or processing plants. Despite this dependency, they are still independent workers, and are intentionally kept in that position, so that in case of accidents no party feels that they hold any responsibility. The remuneration for divers is high, which explains why divers engage in this dangerous occupation.

 Trap fishers’ working conditions are hard, as they work long hours for limited pay and are away from home for a long periods of time. Their working conditions are dire, and compared to the number of hours worked unrewarding, yet it is much safer than diving. They are at sea for 45 days straight, which is the longest of all four fishing métiers. Capital investments are low, as crew do not have to invest anything. Only the boat owners, often large
commercial parties and processing plants, make investments. As crew are paid according to a clear share system, they are not in debt.

Working conditions for industrial divers are very challenging. They work under extreme circumstances, often suffering from pain, and in perpetual fear of an accident, and of dying as a consequence. Divers very often suffer from DCS, and many have died over the past decade. They are absent for three weeks at the time, having to leave their families behind for a long period of time. The remuneration is medium high, and few economic alternatives exist in the region. Capital investment for those who own the boats is high, but for all the divers in the industry is very low. Anyone can enter the industry with a fishing permit, snorkel, fins, and shorts. Divers are generally highly dependent in patron-client relations even though they are officially independent workers. In this case, independence is actually a disadvantage, as processing plants and boat owners claim fishers are independent and that they thus do not need to take responsibility for the divers in case of accidents. In line with the industrial trap fishers, industrial divers are poorly organized. Only the boat owners to are well organized in CAPENIC.

<table>
<thead>
<tr>
<th>Nicaragua</th>
<th>Small-scale trap fishers</th>
<th>Small-scale divers</th>
<th>Industrial trappers</th>
<th>Industrial divers</th>
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<tbody>
<tr>
<td>Working conditions</td>
<td>Medium intensive</td>
<td>Medium intensive</td>
<td>High intensive</td>
<td>High intensive</td>
</tr>
<tr>
<td>Safety conditions</td>
<td>Safe</td>
<td>Very unsafe</td>
<td>Safe</td>
<td>Very unsafe</td>
</tr>
<tr>
<td>Remuneration of fishers</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>Economic alternatives</td>
<td>Drug trafficking</td>
<td>Drug trafficking</td>
<td>Drug trafficking</td>
<td>Drug trafficking</td>
</tr>
<tr>
<td>Capital investment</td>
<td>High</td>
<td>Low</td>
<td>Owners high, crew low</td>
<td>Owners high, divers low</td>
</tr>
<tr>
<td>requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade relations</td>
<td>High dependency</td>
<td>High dependency</td>
<td>Low dependency</td>
<td>High dependency</td>
</tr>
<tr>
<td>Participation in decision</td>
<td>Low</td>
<td>Low</td>
<td>Low (except for owners)</td>
<td>Low (except for owners)</td>
</tr>
<tr>
<td>making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>High (above mid-average)</td>
<td>High (above mid-average)</td>
<td>High (above mid-average)</td>
<td>High (above mid-average)</td>
</tr>
</tbody>
</table>

Table 6.3: Well-being of lobster fishers in Nicaragua

In this chapter I have also shown the variety of ways fishers are involved in drug trafficking in Nicaragua. Although I have not investigated drug trafficking among fishers as a separate subject or focus of research, in many of the interviews I conducted with fishers drugs smuggling did end up in the conversation, either introduced by them or at times by me, out of curiosity. Further research is necessary to investigate whether a particular fishing métier is more actively involved in drug trafficking than others, and the underlying reasons for this state of affairs. Further investigations are also necessary to establish whether the earnings made from drug trafficking are actually spent on the lobster fishery, or for exploring other economic alternatives. Fishers’ drug traffic earnings thus do not automatically translate into increased fishing effort. Although this enterprise appears to be socially accepted in this area, increasing levels of violence do take a toll on regular village life. These practices, as well as the highly dangerous diving activities, are enabled by the lack of state authority. Enforcement,
monitoring, and control are very limited along the coast. This results in high IUU levels by fishers (see also Chapters 3 and 7), frequent deaths due to decompression sickness and increasing violence because of drug trafficking. Fishers have a high level of autonomy, yet the fact they are not protected inhibits their ability to achieve well-being rather than improving it. In this case, autonomy—or the failure of intermediaries, processing plants or the state to take responsibility for the high rate of accidents in the diving industry—severely impacts fishers’ well-being.

Fishers are nevertheless generally satisfied with their job, despite the health hazards, and few see their taking up a job outside of fishing. This might also be partly due to the fact very few alternatives are available in the region, besides drug trafficking and fishing.