The red gold rush: the impact of governance styles on value chains and the well-being of lobster fishers in the wider Caribbean
Monnereau, I.

Citation for published version (APA):
Monnereau, I. (2012). The red gold rush: the impact of governance styles on value chains and the well-being of lobster fishers in the wider Caribbean

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
Chapter 2: The alchemy of lobsters: from fertilizer to red gold

Introduction

Lobster is currently known in North America and Europe as a luxury seafood appreciated by the upper classes. Lobster is culturally associated in these regions with extravagance, romance, sex appeal, and regarded as an aphrodisiac. Each society considers its particular food and eating protocols as normal, as the way things “should be” (Mintz 1986). Although choices are evidently dependent on the availability of foods, this is not exclusive as people never eat everything their environment has to offer. Choices for foods can both differ between countries as well as within countries, with their choice carrying symbolic meaning. Bourdieu (1984) has argued that judgments of taste are related to social position. Eating habits are one way in which people can present likes and dislikes, showing the world their status and distancing themselves from others, such as “lower” groups (Bourdieu 1984).

In Bourdieu’s food classification, he shows that different social classes eat very distinct foods (1984). Fish in this categorization is associated with delicate and lean foods, more appreciated by the better-off. For the working classes, fish tends to be regarded as an unsuitable food for men; it is a light food, insufficiently “filling,” something which would only be cooked for health reasons. “It is one of those ‘fiddly’ things which a man’s hands cannot cope with and which make him look childlike” (1984: 190). Fish is therefore mostly eaten by the more well-to-do and elite classes. Lobster consumption initially appears to fall neatly into Bourdieu’s taste classifications as a food mostly appreciated by the upper classes. It is an expensive food item, difficult to eat for those not accustomed to it, and thus poses a barrier to the lower classes.

Bourdieu’s theory has been criticized for its limited applicability outside of the French context (see, e.g., Lamont 1992; Halle 1993). This chapter will demonstrate the dynamics of lobster appreciation and consumption across space and time. One might assume that the image of lobster as a luxury food, only fit for the elite, is valid globally; this chapter will show, however, that while lobsters have been appreciated in Europe as a luxury product for centuries, in the US only a few centuries ago lobster was known as “food for the poor.” Although this historical lack of appreciation for lobster in the US—in the light of its current image—might come as a surprise, other seafood products that we relish today have similar

30 The association of lobster with lust and sexuality seems to have existed for the last 500 years (King 2011). In 1620 it was already considered an aphrodisiac by Dr. Tobias Venner and in the eighteenth century many poems were written linking lobsters and lust, and concerning its use as an aphrodisiac (King 2011: 115-116). See also the design of the “Lobster Telephone,” also known as the “Aphrodisiac Telephone” created by Salvador Dali in 1936. He created the telephone with the specific intention of aligning the lobster’s genitalia with the end of the phone into which one would speak, thus bringing the speaker’s mouth in line with the lobster’s genitalia (King 2011). King also makes many associations between lobster and sex in movies, such as Flashdance (1983), and Splash (1984).
31 Bourdieu also showed that different classes vary in restaurant visits, the percentage of total expenditure they spend on food, and food categories (1984).
32 But mostly so, Bourdieu claims, because fish has to be eaten in a way which totally contradicts the masculine manner of eating, that is “with restraint, in small mouthfuls, chewed gently, with the front of the mouth, on the tips of the teeth” (1984: 190).
histories. Charles Dickens already noted in *The Pickwick Papers* that “the poorer a place is, the greater call there seems to be for oysters” (1905). A few centuries ago, oysters were considered a staple food by Native Americans and the first settlers, and were eaten by the gross (i.e., a dozen dozen) rather than by the dozen. In the second half of the eighteenth century it was noted that the poorest people in Manhattan lived all year on “nothing but oysters and bread” (Kalm in Kurlansky 2006: 82). Nowadays, the oyster is considered a unique gastronomic experience for which consumers pay extraordinarily high prices. The Atlantic halibut, now described as “America’s favorite whitefish,” was considered revolting in the early 1800s. Similarly, until the 1930s, Atlantic bluefin tuna were discarded as trash fish in the waters around Denmark. In 2001, a 200-kilogram Atlantic bluefin tuna sold just under USD 175,000 at a Tokyo auction (Jacquet and Pauly 2007). Parisians in the 1920s would spit out caviar offered by Russian traders, as they still yet “had to learn to eat caviar in the 1920s in Paris” (Carey 2005). Current caviar prices range between USD 6,000 and USD 12,000 per kilogram.

Eating habits are thus among the most deeply rooted elements of culture. Food is an important factor in defining culture and often carries symbolic meaning.

For us humans, then, eating is never a “purely biological” activity […]. The foods eaten have histories associated with the pasts of those who eat them; the techniques employed to find, process, prepare, serve and consume the foods are all culturally variable, with histories of their own. Nor is the food simply eaten; its consumption is always conditioned by meaning. These meanings are symbolic […] they also have histories (Mintz 1986).

These symbolic meanings not only differ across cultures, but also across subcultures, nations, and continents. In addition, just as the previous examples have shown, the symbolic meaning of foods can change over time. This chapter will explore lobster consumption in the US and Europe throughout the past centuries, as well as the development of lobster fisheries and consumption in the Wider Caribbean and in the three countries under investigation in particular. This will show how a food classification of lobster in a framework such as Bourdieu is limited when examining the changes over the past few centuries and across different regions. This chapter begins with a description of lobster and its key characteristics. I continue with a thorough account of lobster demand and consumption in the United States over the past centuries where, inter alia, the changes of the symbolic meaning and appreciation of lobster will be discussed. I will continue by showing the development of lobster fisheries in the Caribbean region as a result of the increase in demand in the United States, and then elaborate on the specific development of the lobster fisheries in Belize, Jamaica and Nicaragua. The different development trajectories of lobster fisheries in the three countries since the 1950s will be discussed, as well as the current appreciation of lobster in the region.

2.1 Lobsters

Fossils found in Europe and the Americas show that lobsters have existed for 250 million years (Townsend 2011: 24). Current clawed and clawless lobsters have a common ancestor that lived approximately 251 to 290 million years ago (Townsend 2011: 12). In Bavaria, lobster fossils found date from almost 200 million years ago, whereas in England fossil remains have been found from 146 million years ago (Townsend 2011: 24). They have thus
survived immense climatological and geographical changes. The earliest species of lobster by far predate man and, in fact, “they are biologically so much older than mammalia they might as well have been from another planet” (Wallace 2005: 237). Lobsters are the result of a combination between bugs and locusts, so basically could be considered giant sea insects.

The main distinction among the different varieties of lobsters is between clawed and clawless lobsters. The clawed lobster consists of a group of American, European, and Norwegian lobsters that are found in the colder, northern Atlantic Ocean (Townsend 2011: 11). The clawless lobsters are lobsters from the waters of Asia, Australia, and the Caribbean. They have developed into different species across the world, and currently the earth’s oceans are home to a large variety of lobsters.

Lobsters with claws like hair combs sift mud in offshore trenches. Clawless lobsters with antennae like spikes migrate in clans in the Caribbean and the South Pacific. Flattened lobsters with heads like shovels scurry and burrow in the Mediterranean and the Galapagos. The eccentric diversity of the world’s lobsters has earned them some of the most whimsical names in the animal kingdom. There is a hunchback locust lobster and a regal slipper lobster. There are marbled mitten lobsters, velvet fan lobsters, and even a musical furry lobster. The unicorn and buffalo blunt-horn lobsters inspire admiration; the African spear lobster, the Arabian whip lobster, and the rough Spanish lobster demand respect (Corson 2004: 21).

This thesis concentrates on the clawless spiny lobster (Panulirus argus, Latreille, 1804) in the Caribbean region. The spiny lobster is found in the Western Atlantic, from Bermuda and North Carolina’s eastern US coast, down to Rio de Janeiro, Brazil, including the entire Gulf of Mexico and the Caribbean Sea. Spiny lobsters are a transboundary resource that throughout their different life stages move through different sea habitats. They consequently have a complex life cycle requiring three distinct habitats: coral reef (adults); open ocean (larvae); and a shallow, vegetated coastal zone (juveniles) (Butler et al. 1997: 4).

Up to two million eggs can be released by a female lobster, but only a few might survive to become an adult. Once the egg has been released from its mother the larvae drifts for up to a year on the ocean currents. As it spends up to a year drifting in the ocean currents, this means that some countries are supplying larvae to their neighbors or countries even further away. Lobster is thus a shared resource, by virtue of its planktonic larval dispersal (Ehrhardt et al. 2011). Developments in one country, such as the destruction of nursery grounds, therefore potentially affect the prospective harvest of the neighboring countries. Several larval dispersal currents and lobster fisheries areas in the region can be distinguished (see Figure 2.1). In addition, the variety and length of the highly transient larval stages make predicting stock sizes a challenge (King 2011: 87).

33 The Old English version of the word “loppestre” is probably related to “loppe,” meaning spider. But the original derivation goes back to the Latin “locusta.” Pliny the Elder wrote in the first century AD about lobster using the term “locustre,” or locust of the sea, because of the fact that lobsters appeared to disappear “with a single bound or leap as a locust or grasshopper might do” when surprised (Corson 2004: 25).
Fig. 2.1: Currents related to larvae dispersal and fisheries retention areas.
Source: Ehrhardt et al. 2011

From their post-larval to their pre-juvenile stage, lobsters seek shelter and food and move to more secluded areas among mangroves, sea grasses, and shallow coral reef ecosystems. As juveniles mature, they move deeper into the ocean to complete their development into an adult.

While the lobster grows and increases in size, predation becomes less severe as it moves into deeper water as it matures. If a young lobster has managed to survive the dangerous first years when up to 99 percent of lobsters die, it will become a sub-adult at three years of age. Lacking the large defensive claws of their northern cousins, they use their spiny shell as armor. They also use their two enormously long spiky antennae as a defensive measure, rubbing them against their skeleton to make a screeching sound (Townsend 2011: 18). The eyes of a spiny lobster (and clawed lobsters as well) are on stalks to provide a 360-degree view, yet they can still quickly retract them under their shells (King 2011: 29).

Rays, sharks, skates, and other large fish are the largest predators of adult spiny lobsters. They can swallow lobsters whole and will digest them in due time (Woodard 2004: 244). Smaller lobster might also be eaten by triggerfish, blue crabs, and snappers, as well as by sea turtles. In unfished areas, spiny lobsters can grow into giants measuring nearly half a meter (max. 45 cm) and can weigh over 5 kg (11.2 lbs). However, this is hardly the case in the Wider Caribbean, due to heavy fishing, as 90 percent of the legal-sized adults may be harvested annually; consequently the average size is approximately 20 cm. It will take a lobster up to 10 years after they have been released as a tiny little egg to first reach sexual maturity (FAO 2001).

At an adult stage lobsters are sociable and migratory (Butler et al. 1997: 13). They inhabit shallow waters, occasionally down to 90 m in depth, and perhaps even deeper. The lobster is a cold-blooded omnivore that enjoys hiding in the gloom beneath rocks, reefs, and eelgrass beds, or in any habitat that provides protection. They are famous for their autumnal
migrations. They relocate to deeper waters, moving in single file in groups of around 60 lobsters (Townsend 2011: 19). Yearly, approximately 100,000 lobsters migrate in this way to evade the autumn storms that produce waves on the coast. They will use their antennae when travelling to stay connected to their companions, resting them on the lobster in from of them. “It’s a lobster conga line, snaking across the floor of the Caribbean” (Townsend 2011: 19). They do this apparently in response to the onset of summer and fall storms. Trap fishers take advantage of this migration when they target the lobster migrations in the seagrass beds in some areas in the region (Huitric 2005).

![Fig. 2.2: Spiny lobster.](source: Manoel Jose Cifuentes-Markwordt)

### 2.2 From delicacy to food for the poor

Humans have been eating crustaceans since prehistoric times. Many of the earliest hunter-gatherers lived near oceans, seas, lakes, and rivers, and naturally took advantage of every available food resource. Large piles of shells known as middens have been found on British shores, proving the popularity of shellfish among prehistoric coastal communities. But piles of shells have also been found in South Africa, dating from approximately 100,000 years ago, and in Australia and Papua New Guinea from approximately 35,000 years ago (Townsend 2011: 24). King argues, however, that within these middens archeologists have never identified many lobster remains anywhere on earth (King 2011: 56).

The reason for this might be that they were not widely eaten or available, but more likely is the fact the lobster’s shell is very thin and biodegradable (King 2011: 56). It could be that other food was so readily available that lobster was only a minor part of the diet, or that the ecosystems at the time only provided room for small numbers of lobsters (King 2011: 56). However, when combining the rare archeological finds with early depictions of artifacts and the accounts of European contacts with native peoples, it can be argued lobsters were eaten or used as bait or for other purposes “as part of the pre-colonial coastal cultures on each

---

34 The exoskeletons haven’t survived as well as the more calcified shells of molluscs (King 2011: 560).
and every populated continent and throughout the South Pacific and Caribbean” (King 2011: 57).

The earliest depiction of a lobster is a carving on a temple wall in Egypt from the fifteenth century BC (Townsend 2011: 9; King 2011: 58). In Europe, people are believed to have been eating lobsters since the Stone Age (Townsend 2011: 2). Romans in the early centuries of the common era considered shellfish a treat, and even transported it over considerable distances (Townsend 2011: 25).

![Fig. 2.3a: Second-century mosaic with a lobster and fish from Papalonia, near Rome.](image1)

![Fig. 2.3b: Mosaic of sea creatures found at Pompeii. Source: Archeological Museum of Naples, Italy](image2)

The Romans often portrayed lobsters, along with other edible sea creatures such as squid, octopus manta rays, or finfish, on mosaic floors that formed part of domestic and public decoration (see Fig. 2.3a). Among the ruins of Pompeii for example, spiny lobster appeared on a mosaic floor from the first century BC, as well as on several wall paintings and in an alabaster relief (Reese 2002: 310) (see Fig. 2.3b). Roman noblemen would throw copious sea banquets showering their rivals with banquets costing the equivalent of up to USD 80,000 (Roberts 2007: 19). Lobsters and oysters, both a rarity at the time and therefore expensive, were often used in these sea banquets.

During the Viking period (late eighth to eleventh century) and afterwards, Northern European consumption of fish and shellfish grew. The increase in demand for fish was particularly high by the eleventh century due to the increase in population, with more and more people eating fish for protein, through religious obligation, and for prestige. Seafood wasn’t commonly consumed up to the end of the first millennium, as previously people had been eating mostly freshwater fish. However, the switch from freshwater fishing to sea fishing was a result of a complete collapse of freshwater fish stocks in the eleventh century (Roberts 2007: 19).

---

35 Population growth increased demand for fish, while Catholicism in particular boosted demand tremendously, as the medieval church instilled days of fasting, on which sexual intercourse and eating flesh were forbidden, although eating “cold” food was permitted (Kurlansky 1997: 24; see also Roberts 1997: 19). Fish was considered a “cold” food and as the number of fast days and the forty days of Lent could amount to 130-150 days of the year, fish was in high demand (Roberts 2007: 19).
Archeological remains show that within a century or so people in continental Europe turned from eating freshwater fish to eating saltwater seafood. Where in Europe prior to 1000 AD people mainly ate freshwater fish, by the fourteenth and fifteenth century cod, herring, and other saltwater fish constituted 60-80 percent of fish bones in archeological deposits (Roberts 2007: 18). The combination of increased demand for fish due to religious obligations, increasing populations, and the decreasing supply from freshwater sources, increased marine capture throughout Europe.

Technological advances and improved high-sea vessels supported the expansion of the fishing fleets in Europe throughout the Middle Ages. In that era, lobster found its way into prestigious households as a means of demonstrating affluence, and lobster was probably among the seafood consumed on fish days instead of meat (Townsend 2011: 28). Lobsters were consumed at elaborate banquets by royal families, and in the courts of Vienna and Prague (Townsend 2011: 29). It was also appreciated among the royal and aristocratic families of France, the Netherlands, and Britain.

Renowned seventeenth-century Dutch painters such as Andries de Coninck, Jan Davidsz de Heem, Jacob Foppens van Es, Frans Snyder, and Willem Kalf viii often depicted lobsters in the foreground of their still lifes showing presentations of delicacies the upper class might enjoy, such as oranges, grapes, and oysters (Figs. 2.4).

For a variety of reasons fish stocks in rivers had become depleted. Not only had people overharvested fish, but fish stocks also plummeted because of the building of dams and weirs, due to the clearing of farmland that clogged waterways with silt, water mills that caused slow-moving water (difficult for spawning fish going up the river), the use of barrier nets and many other fishing techniques, extensive use of aquaculture ponds in rivers, pollution of rivers by increased population with ever-growing quantities of sewage and toxins, and the reclamation of farmland (Roberts 2007).

In the early 1400s, for example, the Bishop of Salisbury consumed at least 42 different types of crustacean and fish at his table over a nine-month period (Townsend 2011: 28).
It was the Dutch as well who sparked the first substantial lobster industry in Norway. When Holland had exhausted its own stocks they turned to Norway to meet their great demand for lobster. The Norwegians had not fished commercially for lobster up to that point, as they had little appreciation for lobster on the table (King 2011: 69). It was not until the Dutch sailed across the North Sea to search for lobster that Norwegian commercial lobster fishery began (King 2011: 69). The live lobsters were sent by ship to Holland. In the eighteenth century it was also reported the Dutch came at least twice a year to haul home Norwegian lobster, and Norway also expanded the market to England.38

With lobster being rare and exclusive in Europe while demand was high, the first Europeans traders in the New World were more than happy to trade goods and materials with the Native Americans for lobster. Coastal Native Americans held shellfish and most seafood in high regard and relied on them as principal sources of protein and oil (Townsend 2011: 31). Explorers in other regions were also happy to trade items for lobster. Figure 2.5 shows an English naval officer bartering with a Maori at the end of the eighteenth century on one of Captain Cook’s voyages. The Europeans traded lobster for, inter alia, iron nails and building tools.

In 1769 Joseph Banks wrote during one of James Cook’s voyages to New Zealand how the natives they encountered on their way would haul lobster pots. He describes eating supper at the home of Indians which consisted of “fish, shellfish, lobster and birds” (Banks Journal II: 76) and writes with enthusiasm about the luxurious lobster they encountered on their journey (1770):

But above all the luxuries we met with the lobsters or sea crawfish must not be forgot, which are possibly the same that in Lord Ansons Voyage are mentioned to be found at the Island of Juan Fernandes; they are large tho not quite so large as those at Juan Fernandes and differ from ours in England in having many more prickles on their backes, and being red when taken out of the water. Of them we bought great quantities of the natives every where to the Northward, who catch them by diving near the shore, feeling first with their feet till they find out where they lie. (Banks 1770: 318-319)

38 In 1733 alone, Norwegians supplied 23 shipments sailing for Holland (a total of 160,000 lobsters) as well as 41 apparently smaller cargoes bound for England (King 2011: 70). In the 1820s the Norwegians would annually export some 1.5 million lobsters to Holland and England (King 2011: 70).
When the first settlers arrived in North America in the sixteenth and seventeenth centuries they were therefore amazed by the number and size of the lobsters. Boston’s seashore could be littered with lobster after hard storms (Corson 2004: 25, Wallace 2005: 238). In North America there are accounts of Plymouth Pilgrims wading out and capturing all they wanted by hand, and their gladly helping themselves to fresh lobsters that had been piled on the beach by Native Americans. Native Americans living on the coast of New England as a result ate them in quantity (Woodard 2004: 170). In 1622, the Englishman Thomas Morton observed (in Townsend 2011: 31) the following:

This being knowne, they shall passe for a commodity to the inhabitants; for the Salvages [sic] will meete 500, or 1000 at a place where Lobs ters come in with the tyde, to eate, and save dried for store; abiding in that place, feasting and sporting, a month or 6 weckes together.

Lobsters did not retain their popularity with the Europeans that travelled to the New World however. The utter abundance of lobster changed its image within just a few decades of the first settlers’ arrival. William Wood, a colonist in 1620s Massachusetts, mentioned the abundance of lobster and its relatively low value:

Lobsters be in plenty in most places, very large ones, some being twenty pounds in weight [9 kilograms]. These are taken at a low water amongst the rocks. They are a very good fish, the small ones being the best; their plenty makes them little esteemed and seldom eaten. The Indians get many of them every day for to bait their hooks withal and to eat when they can get no bass (Wood [1634] 1993, in Roberts 2007: 39).

In 1622, the leader of the Pilgrims, Governor William Bradford, already reported shame at having to serve lobster for lack of a more appropriate dish (Corson 2004: 26). He apologized to newly arrived settlers that the only dish he could present was “a lobster... without bread or anything else but a cup of fair water.” William Wood in New England’s Prospect in 1634 noted “their plenty makes them little esteemed and seldom eaten” (In Townsend 2011: 34).
In the seventeenth and eighteenth centuries, lobster was so common in North America it was considered “junk” food and food for the “poor.” When caught in great quantities or stranded on shore after severe storms, lobsters served as garden fertilizer (Acheson 1997; Woodard 2004). In 1881, an English visitor called John Rowan described farmers in New Brunswick, Canada, fertilizing acres of potato field with lobsters gathered from the beach after a storm (King 2011: 94). He reported lobster being ground up and fed to the pigs and “lobster shells about a house are looked upon as signs of poverty and degradation” (in King 2011: 94).

Fishers would also use lobsters as bait and would toss ground-up lobster overboard to attract schools of mackerel (Woodard 2004: 171). It was considered a staple food, fit to give to widows, orphans, indentured servants, and prisoners. Lobster was thus fed to these less privileged groups instead of commercially more valuable products such as cod, mackerel, or grain. It was so commonly used as a food for indentured servants, that Massachusetts passed a law forbidding its use more than three times a week—a daily lobster dinner was considered cruel and unusual punishment (Woodard 2004: 170).³⁹ Corson (2004: 25) and King (2011) argue that the common claims of lobsters being considered a “junk food” only fit for “swine, servants, and prisoners” to be an exaggeration.³⁸ Most scholars nevertheless agree that lobster at this time was generally considered a low-class dish for human consumption (Corson 2004; King 2011). Fishers would eat lobster, but most probably more out of economic necessity as finfish was too valuable to eat. Finfish was sold for profits, whereas the lobster was nearly worthless and consumed at home (Corson 2004: 26).

2.3 Popularization of lobster in the United States
The image of lobster in the eighteenth century as a food fit for the poor and servants slowly changed, and gradually its meat became desirable to the well-off urbanites (Corson 2004: 26). As the populations of New England and New York City grew, some fishers began earning extra income by supplying them with live lobster (Woodard 2004: 171). By the early nineteenth century, fishers were catching lobster commercially.⁴⁰ King (2011: 91) pins the starting date of commercial lobster fishery slightly later, at mid-nineteenth century. Around New York, where the population rapidly increased, lobster fishing now became a full-time occupation (Woodard 2004: 171). The abundant offshore lobster stocks declined and fishers moved a bit further from shore and started fishing from small rowboats and at greater depths. The city’s fishers, however, could no longer meet the explosive demand for live or freshly boiled lobster, and fishers in Connecticut started supplying a greater portion of the lobster; soon they too, however, faced declining catches (Woodard 2004: 171).

The commercial development of the lobster industry did not fully begin until the 1840s with the development of the “smack,” wooden sailing vessels developed and designed to transport live lobster (Acheson 1997: 6). These smacks had large tanks onboard with circulating seawater and would keep thousands of lobsters alive for anywhere from several

³⁹ Townsend notes this is a myth and that there is not shred of evidence to support the argument that there was a law protecting prisoners/servants from having to eat lobster more than three times a week (Townsend 2011: 340.

⁴⁰ Initially, this occurred with a type of net hanging from an iron hoop and shaped like a cauldron. Later, trap fishing with traps made of wood and twine were found to be far more efficient than nets, and caught on in New England (Corson 2004).
days up to two weeks (Woodard 2004: 171). This permitted the long-distance trade of live lobster to Boston, New York, and other coastal cities (Acheson 1997: 6).

Lobster canning started in 1842 and quickly caught on. Although sales were initially slow, they developed at a remarkable speed and more canneries opened. In the 1850s there were only three lobster canneries, by 1880 there were 23 (Woodard 2004; Acheson 1997). The canneries flourished along the coast and provided livelihood for many; of all the lobster caught in 1880 approximately two thirds went to the canneries (Woodard 2004). The canned lobster was distributed far and wide, and introduced Americans all over the country to lobster meat. The canning technology thus expanded markets for lobster meat and sparked a “lobster rush,” severely depleting lobster stocks in the Gulfs of Maine and St. Lawrence (King 2011).

By the 1860s, however, lobster fishery showed clear signs of trouble; the catch per unit of effort declined as more and more fishers entered the business, while the catch remained the same (Acheson 1997: 6). By the 1870s and 1880s the first conservation laws were established (Acheson 1997: 4). After 1870, the market for fresh lobster grew enormously due to the introduction of the new technological possibilities provided by, for instance, railroads and cooling facilities. This enabled the shipping of iced lobster to markets, and the invention of lobster pounds—large enclosures for storing live lobsters (Acheson 1997: 7). As the live lobster market expanded, more and more fishermen began to supply lobster (Acheson 1997: 7).

Live lobster fishery further developed after the 1880s, when a major part of lobster demand came from tourists visiting Maine. What began with a few tourists a year, developed into an extraordinary 100,000 annual tourists visiting Maine by the 1880s, and indulging in shellfish and fish (Townsend 2011: 46). On their return home to Boston, New York, or Philadelphia, many continued to crave fresh seafood and so boosted demand in urban markets as well, and thus popularized the idea of their consumption and luxury status. Technological innovations developed at the same time, enabling lobster trade across larger distances. Up until the 1870s canneries supplied the bulk of lobster meat in the United States, but after this time the market for fresh lobster grew significantly (Acheson 1997). Conservation laws also worked in favor of the live lobster industry and profits in the canning industry declined (Acheson 1997: 7). After 1880, the canneries began to close and many moved to Canada (Acheson 1997: 7).

Lobster dealers and fishers mainly traded fresh large “dinner” sized lobsters, which were sold to restaurants in the large cities of the East Coast (Acheson 1997: 7). These affluent diners showed off their wealth by eating several lobsters at one sitting.

---

41 Roughly half of the production was exported to Europe, particularly England (Woodard 2004: 179).
42 The canning process and large number of casualties of lobster during transport was wasteful and consumed an extraordinary amount of lobster. It took four and a half to six pounds of live lobster to fill a one-pound can with meat (Woodard 2004: 179; Acheson 1997: 6).
43 Catch Per Unit of Effort (CPUE) is used in fisheries and conservation biology and used as an indirect measure of the abundance of a target species. CPUE standardizes the data based on the effort, i.e. the number of individuals caught per number of traps and total time of the trapping event. CPUE assumes constant catchability and that all animals have the same probability of being captured (Zimmerman and Palo, 2011)
44 Wealthy tourists travelled to Maine to escape city heat and enjoy the ocean, while simultaneously discovering pristine seafood, including lobster. They provided a critical boost to Maine’s inshore fishers on the coast by eating a great deal of fresh seafood (Woodard 2004: 185).
The lobster pounds which had been developed allowed live lobster to be stored for months, if necessary, until the prices improved. With lobster pounds and new shipping methods, lobsters could be profitably stored and shipped to half the country, and lobster finally became big business in the United States (Woodard 2004: 187).

The demand and image of lobster changed from food for the poor to desirable seafood. “In the thirty years between 1850 and 1880, lobster had gone from a cheap form of bait to a $430,000 industry, exceeding all other Maine fisheries save cod, mackerel, and herring” (Woodard 2004: 187). The growing urban population with increasing desire for fresh seafood, dietary changes, and rising incomes stimulated an even larger demand for lobster in the United States. In 1919, catches declined sharply, however, and they remained low until World War Two. During the entire interbellum period, catches were only 25 percent of what they had been in the last decade of the nineteenth century (Acheson, 1997: 10). The fishery remained attractive until the Great Depression, however, despite declining catches, because of the rising prices (Woodard 2004; Acheson 1997). Lobster had become an expensive luxury item until the Wall Street Crash and the ensuing Great Depression of the 1930s (Woodard 2004: 191). Demand from hotels and restaurants fell, as they started buying smaller, cheaper lobster from Canada (Woodard 2004: 191). The number of fishers fell by a third (Woodard 2004: 191). Many fishers left the industry and those that remained did so mostly only as part-time fishers (Acheson 1997: 10).

The fishery did not recover until after World War Two (Acheson 1997: 10). Catches recovered during World War Two, and remained relatively constant for the next several decades (Acheson 1997: 14). After the war, the consumption of lobster was on the rise again. During the war, lobster had become a prized alternative for beef and other foods that were rationed, and lobster meat filled the increasing demand for protein-rich foods. Moreover, as the economy boomed after the war, many could afford to buy lobster. Although there was a decline in lobster purchases immediately after the war, lobster consumption rapidly rebounded.

It has been the increasing demand, alongside technological advances, that has enabled lobster fisheries in other parts of the world to develop, in order to supply the US market. Beginning around 1900, the development of the internal combustion engine ushered in a series of technological advances in catching lobster around the world (King 2011: x). Later on in the twentieth century, the introduction of freezing technology and airline shipping further

---

45 Similar changes can be observed in South Africa. The commercial exploitation of the species began only in 1875, when a processing plant was established in Cape Town. This cannery began to export to Europe, where its product was seen as a cheap substitute for northern hemisphere lobster (Melville-Smith and Van Sittert 2005). Although exported to Europe and consumed by the bourgeois class in Paris (Melville-Smith and Van Sittert 2005: 33) the image of lobster in South Africa itself remained that of a “food for the poor” (Hauck 2009: 135). “In the not too distant past, no self-respecting white person was seen to eat lobster (at least not in public) here in South Africa. Lobsters were considered food for the underprivileged (read blacks and coloureds)” (Stewart 1998). Its abundance, and its tendency for “massing at the sewer outfalls in Table Bay” confirmed its low status, it was used for bait in the nineteenth century in Cape Town and generally shunned by the middle class (Melville-Smith and Van Sittert 2005).

46 Between 1900 and the 1920s, decadent, scandalous, late-night restaurants, called “lobster palaces” opened and became popular in New York City with the rich and famous (King 2011: x). The palaces were sensual, high-publicity restaurants where men held parties in private rooms and late-night lobster suppers were eaten (King 2011: 117).
expanded the global market for spiny lobsters (King 2011: 101-102). These advances also refer to the use of plastics, the wire trap, radar, scuba equipment, and GPS (global positioning system) technology. The freezer shipments to the US after World War Two really developed the market for frozen spiny lobster tails, as demand for the species continued to rise alongside (Townsend 2011: 50).

Table 1 shows the increase in the production of crustaceans since the 1950s in North America and the Caribbean. The figure clearly indicates the increase in crustacean production since the 1950s in North America and the Caribbean, with production quadrupling in North America and tripling in the Wider Caribbean between 1950 and 2005.

![Production of crustaceans in North America and the Caribbean and Central America between 1950-2005](image)

Table 2.1: Production of crustaceans in North America & Central America, and the Caribbean between 1950-2005.
Source: author based on data from EarthTrends 48

Figure 2.6 shows the largest producers of lobster in the world are the US, Canada, the United Kingdom, Australia, the Bahamas, Brazil, Ireland, Cuba, and France (Chetrick 2006). The American lobster (54%) and the spiny lobster (38%) are by far the most important species in world lobster production, followed by rock lobster (8%) and European lobster (2%) (Tsekelis and McCarron, undated).

47 The figure shows the production of crustaceans (this includes, e.g., shrimps and prawns) rather than just lobster, for lack of available data on only lobster.
Over the last decades, world exports and imports of lobster have grown steadily, with world lobster exports rising 87 percent between 1992 and 2004. The United States has remained the largest importer of all lobster products, accounting for USD 1 billion or nearly 47 percent of global imports, followed by Japan with USD 178 million. Currently lobster imports represent 2.7 percent of all seafood imports (in value, incl. fresh and frozen seafood as well as canned seafood) in the US.\textsuperscript{50} The Caribbean spiny lobster, \textit{Panulirus argus} (Latreille 1804), is the most intensively harvested palinurid lobster in the world, accounting for nearly 42,000 tons (Chavez 2001, 2009).

Figure 2.7 shows current frozen lobster imports into the United States. The main exporters are Australia, Brazil, the Bahamas, the United Arab Emirates, Nicaragua, and Honduras. If you were to combine the volume of lobster exports of all the countries in the Wider Caribbean Basin, lobster imports from the Wider Caribbean region are 75 percent of all spiny lobster imports. Remaining lobster imports come mainly from the United Arab Emirates and Australia.

\textsuperscript{50} 2007 data taken from foreign trade data, NOAA.
2.4 Lobster fisheries development in the Caribbean region

Prior to the start of commercial lobster fishing in the mid-twentieth century, fishers had only sparingly caught lobster for commercial purposes. Locals living in coastal areas would occasionally eat lobster, as the resource was plentiful and provided protein for their diet, but it wasn’t in high demand. A few centuries earlier, when the Europeans first came to the Wider Caribbean region, travelers noticed the Island Caribs catching lobsters. “The Island Carib fisherman reportedly used his legendary skills as swimmer and diver in several fishing techniques. When they see lobsters [...] they take a large rock in their two hands and dive head first, and leaving the rock on the bottom, return with the lobsters” (Dutertre 1667: II, 381 in Price 1966). It was also reported that in Martinique, slaves, who were poorly fed, would supplement their diet with lobsters caught in the little free time they had (Price 1966).

The lobster fisheries in the Wider Caribbean started mainly as a result of increasing international demand in the 1950s and 1960s in the United States, in combination with the improved technology of freezer ships. The figure below shows the lobster production figures of the top producing countries (except for Cuba and Mexico) since 1975, showing the rising trend of lobster production in the Wider Caribbean region. Most countries show trends with a general decline in production in the second half of the 1990s, and later as a result of the economic crisis in 2008 and 2009 (see Chapter 5 for more information on the effects of the economic crisis). In addition, differences per country can be observed with large fluctuations from year to year. These can be due to ecological circumstances, as well as such matters as political turmoil in the country.

![Image](image.png)

*Fig. 2.8: The lobster exports of the top seven producing countries in the Wider Caribbean (plus Jamaica) to the US.*

Source: Author, based on data provided by Urner Barry

When we take a closer look at the production of the three countries under investigation, we see the lobster production in Nicaragua is the largest (1.1 million lbs), followed by Jamaica (700,000 lbs) and Belize (533,000 lbs).
Figure 2.9 shows clearly that lobster imports were low in the 1970s but have increased since, although there were sharp rises and drops along the way. Although lobster imports from Belize were higher up to the end of the 1990s, from the beginning of the twenty-first century their lobster imports have remained relatively stable. Lobster imports from Nicaragua, however, have shown wide fluctuations over the last 25 years. During the civil war in the 1980s, lobster imports from Nicaragua came to a full stop. The trade only started again after the trade bans were lifted in 1990. From that moment on, lobster imports have increased sharply.

Nevertheless, these sharp rises in imports were also followed by sharp declines in trade, although overall the trade has increased over the last few decades, up until the economic crisis in 2008. The development trajectory of the lobster fishery in each country has been strikingly different. The following sections will provide a more detailed overview of the development of the lobster fishery in Belize, Jamaica, and Nicaragua.

Belize

Belize is famous for its large barrier reef that extends for no less than 260 km along the coast. It’s the largest in the western hemisphere and second largest in the world (Fairweather-Morrison 2006). The extensive reef complex in Belize comprises over 1,060 mangrove and sand cays, with three offshore atolls to the east of the reef in deeper oceanic waters (Gillet 2003). The large barrier reef has enabled the country to claim a very large Exclusive Economic Zone (EEZ) in comparison to its land size. Belize’s EEZ is a total of 170,000 km², over seven times its land mass (Gillet 2003). The large and shallow EEZ has stimulated a heavy reliance on fishing, for domestic consumption, and to provide income and employment for a significant part of the population and substantial foreign exchange.

The commercial exploitation of lobster started in the 1920s in Belize, the earliest of the three countries discussed here. The fishery developed initially due to an American entrepreneur who hired Belizean fishers to gather lobster in 1915 (Huitric 2005). In 1923, a
Canadian entrepreneur introduced the lobster trap to the lobster fishers and set up a barge with a cannery (Huitric 2005). Although he abandoned the cannery in the 1930s, fishers continued catching for their own use and to sell (King 1999: 79; Huitric 2005). Prior to this North American entrepreneurship, lobster was considered a “food of last resort” in Belize. After a heavy storm, lobsters would wash up on the shore in their hundreds, and older local residents remember the bottom of the sea being colored red from the massive amounts of lobster at the time (King 1999: 79). Fishers would carry the lobster to Belize City to sell, but as they were so abundant, they often went unsold, and fishers would often discard hundreds of lobsters as they would spoil in the sun in the heat of the day at the market (King 1999: 80).

It was not until the late 1940s and 1950s that Belize’s lobster export fishery began its largest expansion (King 1999: 80). In the 1950s, processing and freezing facilities were established in Belize City, allowing year-round fishing and processing of lobster, while the colonial government installed export duties in the 1950s (Huitric 2004). After World War Two, American buyers and processing facilities arrived, and various American buyers controlled the fishery during the late 1940s and 1950s. Although they provided a steady market, the fishermen profited very little in comparison to the foreign buyers, as prices were low for fishers at the landing sites. The main profits went to the foreign entrepreneurs and companies, to the dissatisfaction of the fishers. In the 1950s, fishers only received around BZD 0.01-0.05 per lobster for whole lobsters, and between BZD 0.15 to 0.40 per pound for cleaned tails from foreign buyers (King 1999: 87).

The expansion in the 1940s and 50s coincided with the colonial government passing its first fisheries legislation that regulated the lobster fishery in British Honduras (King 1999: 80). In the 1940s, the colonial government of British Honduras enacted legislation to promote credit unions and cooperatives (King 1999: 88). Catholic priests advanced these community-based institutions as a means for rural agriculturalists and fishers to improve their well-being through collective action, and the lobster fishers took advantage of this development (Price-Daly 1986: 6-63; King 1999: 88).

Fishers in Caye Caulker, a small island to the northeast of the capital, had first learned about the credit union and cooperative moments in the 1950s (King 199: 88). They established a credit union, but their initial attempts to organize a cooperative failed (Sutherland 1986). In 1960 they tried again and succeeded, as they had sought assistance from a politician in the area who supported them vis-à-vis the colonial government. The fishers were motivated to attain higher prices and, together with the support from a local politician, a Canadian expert on cooperatives—and aided by an American manager of one of the fishery plants—the first fishing cooperative was begun (King 1997: 457).

At the opening of the lobster season of that year, the fishers from Caye Caulker managed to collectively negotiate higher prices from the foreign seafood buyers. A few months later, the fishers achieved formal recognition by the colonial government and were registered as the Northern Fishermen’s Cooperative Society (NFCS). The cooperative processed, stored, and marketed the lobster fishers sold to it, and fishers were earning up to USD 2.00 per pound for lobster tails by the middle of the 1960s (King 1999: 89).

With the introduction of marketing cooperatives in the 1960s, economic and social conditions greatly improved for fishers. Through collective processing and marketing, the foreign intermediaries were eliminated and larger profits realized. Within two years, the
cooperative had its own processing plant, and, soon after, fishers were earning substantially more from the lobster exports than previously. Three more fishing cooperatives were established between 1960 and the mid-1960s, and between 1959 and 1964, fishers were earning over 13 times more per pound of lobster (King 1997: 457). By 1965, the government of British Honduras (known as Belize as of 1980) outlawed foreign exporters and conceded authority to the cooperatives to become the sole exporters of this species. The commercial fishery therefore evolved from one of foreign-dominated purchasing and marketing companies to locally owned cooperative organizations (Gillet 2003).

In Belize today, four fishing cooperatives still exist which were formed at the beginning of the 1960s. The spiny lobster (Panulirus argus), queen conch (Strombus gigas), and pink shrimp (Penaeus dourarum) are currently the economically most important species with respect to production and economic value in the marine capture fisheries in Belize (Belize Statistical Report, 2005). The fisheries sector (incl. aquaculture) is now the third largest foreign exchange earner, with aquaculture yielding USD 30 million, and marine capture USD 11 million in 2005 (Fairweather-Morrison 2006). Lobster exports are highly important, as in 2003 they were worth nearly USD 7 million per year, conch over USD 2 million.51

Even though lobster has become an undeniably important trade commodity, Belizean fishers still have no strong desire to eat lobster themselves. Household surveys carried out by King (1999) recording meals and foods eaten in Caye Caulker, a small island community with high lobster production numbers, showed locals rarely eat lobster. The household food journals indicated that those participating only ate lobster in 3 percent of their meals, whereas fish was the seafood item most consumed (King 1999: 112). Although one could imagine that lobster are too valuable to be eaten, fishers can and will consume undersized lobster. In the surveys52 conducted for this research, Belizean fishers (from both Caye Caulker and other areas) also clearly indicated fish was still their preferred seafood item for personal consumption, with only 19 percent of fishers preferring to eat lobster to fish.

Jamaica

Jamaica is an archipelagic state located in the Caribbean Sea 145 km south of Cuba and 161 km west of Haiti. The country consists of a main island, and several offshore keys, banks, rocks, and shoals (Morris 2010). The EEZ is very large, measuring 274,000 km², equal to 26 times the area of the main island (Van Riel 2005). This is the result of some small keys to the south and southwest of the island called Pedro, Morant, and Formigas Cays. These have historically been inhabited by Jamaicans, which enabled Jamaica to declare itself to be “an archipelagic State.” In total the country consists of over 60 islands, cays, and rocks, about six of which are continually inhabited. Marine fishing is therefore divided into two main types, namely inshore and offshore fishing. The inshore fishing includes operations carried out on the island’s shelf areas within 64 km of the mainland, while offshore fishing includes

---

51 The bulk of lobster exports consists of lobster tails. However, Belize also exports a small percentage of lobster head meat. These are used as the base of seafood soups and are marketed in, e.g., China (NFCS Annual Report, 2005).
52 N=31
operations performed outside the EEZ’s proximal banks (areas further than 64 km from the country’s mainland).

The Jamaican government has played a major role in the development of fisheries since the 1940s, as the main force behind its modernization and development. Fisheries developed in the 1940s, and already in 1949 the Fisheries Division of the Ministry of Agriculture was established, as a sub-division of the Forestry Department, to promote the fishing industry in general, and fish farming in particular, as it was felt that aquaculture had considerable economic potential. In the 1950s, the Jamaican Social Welfare Commission began promoting fishing cooperatives among the fishermen on different beaches around the island. It was believed that the development of the Jamaican fishing industry depended upon the development of cooperatives for the improvement of production and marketing techniques. Although lobsters were harvested in those days, the commercial lobster fishery was still limited.

Moreover, in 1960 loans were provided to fishers for both offshore as well as inland fishing, as the fishers’ primary disadvantage was lack of mechanized power. The government organized a boat-mechanization and credit program in 1956. A major phase of the program consisted of a revolving fund which provided credit facilities for commercial fishermen, by supplying outboard engines under generous hire-purchase terms. By 1961, over 630 engines had been supplied to fishers, and the loans repaid for nearly 90 per cent (Venema 2004). In addition the government started to supply a duty-free gasoline-oil mixture, and began the construction and operation of gasoline stations adjacent to fishing beaches.

By 1975, several forms of subsidies to develop the fisheries further existed, such as gas-oil mixtures for outboard engines at low prices; diesel fuel for larger vessels, with a discount subsidy by the government; cash refund on mesh wire rolls for use in fish-pot construction; tax-free supply of outboard engines for bona fide fisheries; and repair and training facilities at the Fisheries Division of the Ministry of Agriculture, in Kingston, for the maintenance of outboard engines.

The subsidy program for the fisheries sector began in the 1970s with subsidized outboard engine fuel. Since 1976 there has been a small subsidy on mesh wire for fish traps and for diesel fuel for larger decked vessels. These subsidies were curtailed in the 1980s. The Fisheries Division has operated a revolving loan scheme for canoes and engines (Aiken and Haughton 1987). Fishers purchased outboard fuel mixture for less than half its market value. Equipment used by fishers was imported duty-free. This led to more and more people entering the fishery industry and overcapitalization, and a downward trend in catch per unit of effort (Aiken and Haughton 1987).

In Jamaica, an industrial fishery started in the 1970s with diving boats employed by a processing plant in Kingston. In the early 1980s, this processor changed from diving to trapping as a method. Large companies and investors began processing and exporting conch and lobster caught on offshore banks by large, decked vessels. These industrial vessels were mainly active on the Pedro Bank, generally fishing for conch and lobster. More fishers settled on the cays of the Pedro Bank, while others started fishing the offshore banks from beaches on the main island, mainly from the south coast. Their catch went to both the national market.

53 Based on a report by the Inter-American Development Bank (IDB).
and the international market. The industrial fleet was quite large between 1980-1988, but due to overexploitation there has virtually been no large-scale lobster fishing since 1990 (Aiken and Kong 2000). The fishing cooperatives have been less successful in Jamaica, and no fishing cooperative currently holds any processing facilities. Processing facilities are rather in the hands of small commercial business entrepreneurs. In 1990, a 60 percent devaluation of the national currency greatly increased the cost of living, and lowered living standards across the island. In desperation, increasing numbers of Jamaicans turned to fishing as a source of income and protein, a move facilitated by the fishery’s “open-entry” policy (Waltho and Biggers 2004). Waite et al. (2011: 5) believe fisheries contribute directly and indirectly to the livelihoods of more than 100,000 people island-wide, or nearly 5 percent of the population.

The gross revenues from the sale of reef-related fish (incl. lobster) between 2001-2005 averages USD 33.1 million per year, including an estimated USD 24.2 million per year from domestic sales and an estimated USD 8.9 million per year from exports. Subsistence catches are estimated to be worth USD 1.2 million. The total value of the reef-related fishery can therefore be established at an average USD 34.3 million per year between 2001 and 2005, equivalent to 0.3 percent of Jamaica’s annual GDP (Waite et al. 2011: 6). The Pedro Bank fishery alone is estimated to value USD 8.8 million from conch, USD 4.4 million from lobster, and USD 13.2 million from finfish.

The fisheries sector is therefore very valuable for fishers and all those involved in the fish chain. Besides the direct benefits, fishers also find themselves in a situation where their operations are subsidized through government loans, concerning matters such as fuel, engines, and mesh. With the recent economic downturn, these subsidies have been cut and the loans been withdrawn. The country’s fishing industry is described as small-scale in nature. Jamaica’s capture fisheries sector includes a very small industrial fleet, mostly fishing the offshore banks for conch, lobster, and fish (Auditor General 2008: 11). The main fishing exports are conch, lobster, tilapia, and ornamental fish (Venema 2004). No secondary data are available to determine lobster consumption in Jamaica or any changes that have taken place in this regard. The surveys conducted for this research, however, indicated that only 15 percent of the interviewed fishers preferred to eat lobster over fish.

Nicaragua

Nicaragua’s Caribbean continental shelf harbors one of the main spiny lobster (Panulirus argus) stocks in the Central Western Atlantic. The extended continental shelf, its shallow depth and the occurrence of abundant coral reefs provides a good habitat for the spiny lobster that inhabits shallow waters up to 90 meters deep (Cochrane and Chakalall 2001). In Nicaragua the spiny lobster is distributed over an area of 37,000 km² (66 percent of the Nicaraguan platform) in the Atlantic Ocean, but is principally concentrated around the Miskito Keys and within a radius of 40 nautical miles around Corn Island (FAO 2001: 252).

The political turmoil in Nicaragua has had consequences for the lobster fishery. Since the fishery began in the 1950s, it has been influenced by the overall political developments in the country. Until the 1950s, exploitation of the lobster resources on the Atlantic coast of Nicaragua was limited, mainly due to the difficulty isolated coastal communities lacking infrastructure for transport and processing had in accessing international markets (World Bank 1999: 1). However, in 1953 large-scale fishing on the Atlantic coast began when a US
company obtained a contract to fish for shrimp and other shellfish off the Atlantic Coast of Nicaragua (Vilas 1989:76). The fishery expanded rapidly in response to increasing demand in the US. By 1970 the fleet had increased to around 55 boats, and by 1978 there were already 100 lobster boats in operation on the Atlantic Coast, both trapping and diving (World Bank 1999: 7; FAO 2001: 238).

Several processing plants were established in the Caribbean region. They were financed with US capital, as well as funds from the government; the production was primarily for export, the main market the United States (Vilas 1989:76).

Nevertheless, the civil war that started in 1979 curtailed most lobster exports. The private industrial fleet passed into state ownership and the former owners of a part of the fishing fleet removed everything of value from it. Part of the fleet was clandestinely sent to Costa Rica, Honduras, or San Andrés (Vilas 1989: 137). The processing companies were mostly abandoned, yet the revolutionary government held on to a few processing plants in order to gain some revenue from the fishery (Vilas 1989: 103). During the Sandinista years there was a marked reduction in fishing on the coast, with an average of just eighteen industrial boats in operation during the decade prior to 1989 (World Bank 1999: 8).

With the end of the civil war in 1989, economic sanctions against Nicaragua were lifted, and in 1990 the new government reinstituted private enterprise, once again attracting business interest from the US (Meltzoff and Schull 1999: 12). This led to a boom in the sale of foreign fishing licenses, and the opening of the vast US market in frozen lobster tails (ibid.). The situation therefore returned to how it had been previous to the civil war. The government granted a huge number of licenses to the industrial fleet and numbers rose to 77 industrial boats by 2000. A large part of the fleet was foreign (mostly Honduran or Colombian).

The nationalization of the fleet in 1992 did not alter this profoundly, as former foreign vessels now carried a Nicaraguan flag, while captains and a large part of the crew often remained foreign. Licensing of the industrial fleet supplied the government with substantial revenue. All processing plants are privately owned and no fishing cooperatives in Nicaragua have processing facilities. Lobster, shrimp (cultivated), and finfish currently are the economically most important species.

In a household study conducted in the small coastal community of Tasbaupani on the Caribbean coast by Nietschmann in 1972, lobster was not even mentioned as a food item. At this time lobster was already widely exported to the US. Nietschmann’s research showed most of the meat from hunting and fishing came from three species (green turtle, white-lipped peccary, and whitetail deer), with no mention being made of lobster consumption (Nietschmann 1972). In a similar household consumption study in 2008 in Pearl Lagoon (another coastal community on the Caribbean coast of Nicaragua), Garland and Carthy (2010) revealed similar results. When interviewees were asked about their preferred ranking of meats and seafood, lobster was not ranked in the top three. Although the top three differed slightly per age group, only (sea) turtle, chicken, fish, and beef were mentioned as preferred foods. When the scores were shown, categorized by socioeconomic status, only the highest socioeconomic group listed lobster as the third preferred food, with shrimp and chicken at numbers 1 and 2. The surveys I carried out among lobster fishers in Nicaragua also indicated only 2 percent of the fishers preferred to eat lobster over fish and other seafood.
Conclusion

This chapter has provided background material on the spiny lobster species, and on lobster appreciation, consumption, and harvesting that enables the reader to place the current lobster fisheries in the Wider Caribbean in a historical and geographical context. Lobster as a species by far predates man. They have developed differently throughout the world and different types of lobsters can be found across the globe. The most common distinction is between clawed and non-clawed lobster. This thesis focuses on the non-clawed lobster from the Caribbean region: the spiny lobster (*Panulirus argus*). This chapter has demonstrated that the spiny lobster is a transboundary resource and that actions taking place in one country could impact the lobster resource in another country in the region. Spiny lobster fishery is a major industry in the region and, from a regional perspective, spiny lobster is the most imported lobster species into the US.

Present lobster consumption and appreciation in the US and Europe fits neatly with Bourdieu’s (1984) food space classification. It is a luxury food mostly enjoyed by the elite. This chapter has, however, clearly shown that lobster consumption and appreciation is culturally bound and has differed over time. In Europe, lobster has been appreciated as a luxury food item since prehistoric times. In Roman times, lobster was already regarded as an extravagance, and the elite would throw lavish sea banquets the included lobster.

Although currently in North America lobsters are regarded to be in line with caviar and oysters, and a food associated with wealth and luxury, this image has not been consistent throughout the previous centuries. Its abundance along the coast of North America resulted in lobster being considered “food for the poor” in the seventeenth and eighteenth century. Fishers would eat it, but only because other seafood was often too expensive; lobster was often used as bait and given to servants.

The growing urban population with its increasing desire for fresh seafood, dietary changes, and rising incomes stimulated a growing demand for lobster in the United States. In combination with technological advances, a shift took place in the latter half of the nineteenth century and the alchemy of lobster from fertilizer to “red gold” became a fact. Lobster demand and prices on the world market showed an increasing trend up until the end of the twentieth century. The Great Depression marked a sharp drop in demand, yet prices continued to rise.

Since the 1950s, the demand for lobster in the US has grown exponentially, sparking lobster fisheries development around the globe. The demand was caused by changing dietary patterns, increased urbanization, population growth, and increasing wealth in the market countries. International trade was enabled by technological advances enabling long-distance travel. Lobster receiving high unit prices on the world market was the result. The strong demand, high unit prices on the international market, combined with improved technology such as freezer boats, have stimulated lobster fisheries in the Caribbean region.

The fisheries have developed directly as a result of increasing demand from the US since the 1950s. No commercial lobster fisheries existed prior to this development, and it is not a product commonly appreciated as a food product in the three countries. In the three countries under investigation, lobster is highly valued as a commodity with a high unit value, and desired by tourists and foreigners.
This chapter has demonstrated that lobster commonly lacks the symbolic value of a luxury product, romantic food, or an aphrodisiac in the region. It is highly valued as a trade and export product, but without the same symbolic meaning as elsewhere. The three country surveys conducted for this research, taken together, lead to the conclusion that on average 81 percent of the fishers preferred eating other seafood over lobster.

The Caribbean region is at present the largest exporter of lobster to the US. In this chapter, I have placed the three lobster fisheries in the context of developments of lobster fisheries worldwide. The chapter has illuminated the different historical trajectories of the lobster fisheries in the three countries under investigation. This has revealed that the most striking aspect of the lobster fishery in Belize is the prominent place of fishing cooperatives. From the onset of the fishery in 1960s, the state has granted exclusive export rights to fishing cooperatives. In Jamaica the state has attempted to stimulate fishing cooperatives, yet few of these are still in existence today. In Nicaragua political turmoil has played a pivotal role in the development of the lobster fishery. During the civil war the lobster fishery nearly ended completely, but the fishery quickly reemerged at the end of the civil war, after 1990. Market parties have played an important role in the Nicaraguan fishery from its onset.

The following chapter will place the lobster fishery in each country in its respective larger societal embedding. From a comparative perspective it will further investigate the different fisheries governance styles, the different development orientation of the states involved, and the current governance arrangements, involving the interaction between state, market and civil society at a national level.