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.

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Chapter 4: Peaceful fishing within Belize’s cooperative lobster fishery

Introduction
Gilberto Downs spreads his arms in a Jesus-like fashion and points at the beautiful turquoise water that surrounds him. As the sun blazes down on our heads on the little lobster fishing boat in Belize, he stretches his arms towards the village of Caye Caulker at half a mile distance and declares “You can buy all of this sea-space for 2,500 dollars.” “However,” he adds ironically, “no one wants it anymore.”

For decades, lobster fishing was the main economic activity of Caye Caulker. Since the beginning of the commercial lobster fishery, the villagers developed their own informal sea tenure system. The fishing village of Caye Caulker and San Pedro are one of the areas in the world where fishers have property rights over their fishing territory (King 1997; Sutherland 1986). Fishers have carved out their “own sea territory,” and are able to both exclude others as well as sell their “property.” This sea tenure system is based on customary law rather than on state law. It is a set of traditional common law rules that has been developed by the villagers since the expansion of the lobster fishery in the 1950s (King 1999; Sutherland 1986). However, as tourism has become the main economic pillar of the village, fishing is now becoming less and less important for young men, and inheriting or buying sea property has also lost importance to a large degree. Although this system is still in practice, is widely described in the literature (see King 1997, 1999; Sutherland 1986; Vega 1978), and known throughout the region as one of the few examples where fishers still hold territorial rights, the system it is not characteristic for the lobster fishery in Belize as a whole.

Fig. 4.1: Father and son fishing for lobster, Caye Caulker, Belize.
Source: Author

This sea tenure system only applies to trap fishers in Belize; it does not apply to the lobster divers that are active in the fishery. Thus, besides the case of trap fishers in the
villages of Caye Caulker and San Pedro, no other lobster fishers in Belize use a sea tenure system. It is therefore only one element of the lobster fishery governance and practice in Belize. In Chapter 3, I have examined the governance arrangements of the lobster fishery at the national level, where I concluded the governance style of Belize is one of co-governance. This chapter explores the achievement of well-being of lobster fishers in Belize, as a result of this governance style in which the fishers are embedded. As explained in Chapter 1, I depart from a three-dimensional view which distinguishes: material well-being, relational well-being, and subjective well-being. These dimensions will be different across the two fishing métiers practiced in Belize: small-scale trapping and small-scale diving. In this chapter I will argue that the well-being of trap fishers in Belize is higher than that of lobster divers.

4.1 Belize’s lobster fishery
Belize is famous for its large barrier reef that extends no less than 260 km along the coast. The barrier reef with its many atolls has enabled the country to claim a very large Exclusive Economic Zone (EEZ) in comparison to its land area. It’s EEZ of 170,000 km², is in fact over seven times its land area (Gillet 2003). The large and shallow EEZ has stimulated a heavy reliance on fishing by a significant part of the population, for domestic consumption, income, and employment, while also ensuring substantial foreign exchange. The large reef also protects the coast and keys from hurricanes (King 1999) (see Map 4.1).

Fishers fish for species such as the spiny lobster, queen conch, pink shrimp, finfish, aquarium fish, aquatic invertebrates, and stone crab. The spiny lobster (*Panulirus argus*), queen conch (*Strombos gigas*), and pink shrimp (*Penaeus dourarum*) are the economically most important species (Belize Statistical Report 2005). The lobster fishery is thus currently the largest export earner in value of the capture fisheries; it is no surprise that fishers (N=31) consider lobster to be their most valuable product. In 2007, lobster supplied 75 percent of all revenues of the fishing cooperatives, conch 18 percent. In 2008, however, the lobster revenues percentage had dropped to 66 percent, with conch supplying 31 percent, which is most probably due to decreasing prices as a result of the economic crisis. In the last three decades, the number of fishers in Belize has nearly tripled, rising from 790 registered fishers and 565 boats in 1973 to about 2026 fishers and 652 boats in 2005 (McConney et al. 2003; Villanueva 2005). Map 4.1 below lists the major fishing communities in Belize, as well as the different reefs and atolls.

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Fisheries Department Historical Statistics (2007,2008)
4.2 Material well-being

In the Belizean lobster fishery, there are two major fishing groups: small-scale divers and small-scale trappers. Although certainly similarities exist between the trap fishers and divers in Belize, a variety of differences can also be observed in relation to their material and relational well-being. Prior to exploring these three dimensions, I will therefore examine the working conditions, safety, investments, and remuneration of the two different fishing métiers, as well as discussing single-species and multi-species fishery, and the various economic alternatives fishers have. I will focus on the lobster fishers of Caye Caulker, and divers from Sarteneja (see Chapter 2 for further information on choice of location).

Trap fishers

Trap fishers are active in the northern zone of Belize in the fishing villages Caye Caulker and San Pedro on Ambergris Caye (see Map 4.1). Caye Caulker is located approximately 34 km northeast of Belize City, and is eight km long and less than half a km across its widest point, south of the village (King 1999: 74). Ambergris Caye (with San Pedro as its main village), the largest of Belize’s keys, is located 24 km north of Caye Caulker. The islands were uninhabited for centuries, until the mid-1800s, when refugees fleeing the Caste Wars from the Yucatan settled on the keys. Trappers from Caye Caulker are of mixed ethnic identity. Although islanders who have grown up on the cayes primarily identify themselves as “Spanish” (King 1997), there are also many Creoles. Spanish, English, and Creole are all commonly spoken and most islanders are bilingual or multilingual (King 1997).

As we have seen in the introduction to this chapter, sea tenure plays an important role in the trap fishery in Belize. Although the exact start of the sea tenure system is unknown, the
first reference is from 1969, in the annual report of the Northern Fisherman Cooperative (NFCS) (see King 1999: 86).

In so far as most of our members fish by traps, we wish to state here that we recognize that there is a tradition among our fishermen that each one finds his area to set his traps and that is not within the general accepted tradition for other members who set within the same area covered by that fisherman. Due to the expansion of the industry we can foresee that some problems will arise here and so we are asking all members to respect this tradition established by our fishermen, when and if they are expanding their operations, or for some when they start going into this business. (NFCS 1969: 11 in King 1999: 86).

This fragment shows the territorial system has been long part of Belize’s fishery system and that cooperatives were established early on. The cooperatives aimed to protect the territorial rights of the fishers. The cooperatives in turn were supported by the government who granted exclusive export licenses to the cooperatives.

Access to the productive lobster fishing territories from the very beginning have been regulated through kin ties, community membership, and continued participation in the fishery (King 1997, 1999; Sutherland 1986). Young fishers normally enter the fishery through working with older relatives, usually their fathers or uncles. Once they reach the age of 16 to 18, they may choose to become fishers themselves (King 1997). Families and individuals who established access to the fishery in the 1950s and 1960s have maintained their rights to fish in the area. These same fishers from Caye Caulker were the first to establish a fishing cooperative in Belize in 1961, after which a few more followed. Now the fishing cooperatives hold exclusive export rights, which means no commercial parties can be involved in exporting seafood.

As fishers are able to “own” sea territory and exclude outsiders, this permits fishers to not to have to mark the traps, and also to invest in shades. Shades are rectangular structures

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74 To establish their own territory, they either may be given some traps and a portion of an established relative's territory, or they may be given traps to place at the margins of a territory fished by their relative, and then work to “carve out” a territory of their own by adding more traps when able to do so (Sutherland 1986: 23-24). Alternatively, a fisher may inherit a territory from his father or uncle. King (1997) writes of younger men trying to acquire new fishing territories in unclaimed waters, yet this is difficult, as few fishing territories remain untaken.
consisting of a wooden (palmetto) frame to which a sheet of zinc, measuring approximately 1 x 1.5 m, is nailed, although sizes can vary (see Fig 4.2b). Sometimes fishers will use ferrocement shades as well and, even the hood or roof of vehicles are used as “shades.” These all work as artificial hiding places, providing shelter that mimics the habitat where lobsters naturally hide during their growth phase, and thus are used to attract lobster. Shades are employed worldwide by commercial and recreational fishermen to increase their catch while decreasing effort (Seaman et al. 1989). The shades are subsequently fished with hooks by divers (free-lung) with a snorkel mask, usually the crew members of trap fishing vessels (see Fig. 4.2a). They are weighed down with a heavy object to prevent predators, such as nurse sharks and dolphins, from flipping them over for an appetizing meal.

Alienation rights, combined with the rights of exclusion, produce incentives for owners to undertake long-term investments in a resource (Schlager and Ostrom 1992). The right of alienation refers to the “collective-choice right,” permitting its holder to transfer part or all of the collective-choice rights to another individual or group, and thus the right to sell or lease it (Schlager and Ostrom 1992). For successful sea tenure to emerge, fishers must be confident in the commitment of other nearby fishers working in the same fishing grounds to limit access to sea territories and monitor other fishers’ behavior (King 1999: 25). In addition, fishers are only allowed to fish in their own fishing territory within this area.

The lobster sea tenure system practiced by lobster fishers in Belize shares similarities with the territoriality practiced by Maine lobster fishers75 (Acheson 1988, 2003), Mexico (Schlager and Ostrom 1992; Castillo and Defeo 2001), and Cuba (Joyce 1997; Conrad and Danoff-Burg 2011). The fact that lobster lives in relatively shallow waters, within a limited geographical range, assists lobster fishers in certain cases in developing a territorial system.76 The exact reasons for users of common-property resources to arrive at successful management practices, and when this is not the case, is far from clear (Acheson and Gardner 2010).77

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75 The Maine lobster fishery is one of the most successful fisheries in the world, where catches over the last decades have been going up rather than down (Acheson and Gardner 2010). Acheson has described two types of lobster fishing territoriality that are present in the Maine lobster fishery: perimeter-defended and nucleated areas (1988). Nucleated areas are large areas, with membership reserved for members of particular fishing communities or harbors. The boundaries are rather fluid in comparison to perimeter-defended territories. The perimeter-defended territories refer to much smaller, individually defended territories, with more precise boundaries (Acheson 1988). According to King (1999: 87), the sea tenure system in Belize resembles both the nucleated type of territoriality as well as perimeter-defined territoriality. Individual and kin-based groups divide the fishing grounds surrounding the Caye into more defined territories which are held by the respective person or family from season to season. These are the “areas” referred to in the cooperative report excerpts cited above, and they resemble Maine lobstermen’s perimeter-defined territories (King 1999: 87).

76 Two of the world’s largest lobster fisheries—Australia and Maine in the US—are regarded as being successfully managed, with high and stable annual production. In March 2000, Australia’s rock lobster fishery became the world’s first fishery to be certified as sustainable by the Marine Stewardship Council (MSC), according to the MSC environmental standard. The Mexico Baja California red rock lobster followed in 2004, while the Maine lobster fishery in the US is currently under MSC assessment, and full certification is expected in May 2011.

77 Much literature concerning governing the commons has centered on the question of why some local communities and governments have been able to generate effective rules to conserve stocks while others haven’t managed this (Ostrom 1990; Agrawal 2001). Noble Prize winner Elinor Ostrom (1990), Baland and Platteau (1996), and Wade (1988) have written some of the most eminent books that produce theoretically informed generalizations about the conditions under which groups of self-organized users are successful in managing their commons dilemma. Nevertheless, it has been far from clear why exactly it is that some fisheries have developed effective rules while others haven’t (Acheson and Gardner 2010).
Cuba, it has been the central government which established lobster fishing territories (Joyce 1997; Conrad and Danoff-Burg 2011). Here the government provides access to specific groups of fishers, and enforces the rules and regulations that apply. In Mexico, on the other hand, it has been fishing cooperatives that established fishing territories (Schlager and Ostrom 1992; Castillo and DeFeo 2001). The cooperatives define the territories for individual fishers, and enforcement is carried out by the fishers themselves (Schlager and Ostrom 1992).

The fishers from Caye Caulker and nearby villages are largely single-species fishers, catching only lobster and the occasional stone crab. Fishers use fiberglass skiffs or motorized dories, equipped with outboard motors (15-115 hp), approximately 3.5 to 12.5 meters in length. They employ traps, shades, or drums. The traps used are rectangular “palmetto” traps, normally un-baited (or baited with coconut), with a funnel entrance on one side. They are set in the seagrass beds behind the reef crest in shallow waters (3-16 m) (see Fig 4.2a) (FAO 2003: 715). It is estimated there are 62,000 traps in Belize, maintained at a cost of USD 25 per trap season (McConney et al. 2003). This amounts to a USD 1.55 million investment by trap fishers in Belize.

These traps usually last one season to two seasons maximum. Traps are “pulled,” or “hauled” with a long wooden pole with a metal hook at the end. They are not marked, as in Nicaragua and Jamaica, as the water is shallow and clear enough to spot the traps, and, as we have seen in the introduction to this chapter, fishers only fish in their own sea territory. Only when the water is murky—due to storms for example—does spotting the traps and shades prove difficult, according to the fishers interviewed.

The majority of trap fishers interviewed stated they had between 300-500 traps, although some only had 180 traps. Fishers leave early in the morning and return in the afternoon. The fishing grounds are very near to the village of Caye Caulker and fishers state they generally take between 10-30 minutes to reach the fishing grounds. As fishing grounds are so near to shore, fishers are able to bring their cell phones in case of an emergency, and also often bring along life jackets and use GPS to locate the traps if necessary. Trap fishers usually only spend five to nine hours at sea per fishing day. Lobsters are stored in the shade of an old trap, and are thus kept alive until they are brought back to shore to be “tailed” and gutted. There is therefore no need for these fishers to bring along ice. The majority of trap fishers indicated they only went out three days a week but some fishers indicated they work the full seven days of the week.

Shades—commonly known in the Wider Caribbean region as casitas—and drums are also used by trap fishers. Approximately 2,470 shades were deployed in various fishing zones in at a value of USD 15 per shade (adding up to another USD 37,050) (McConney et al. 2003). In addition, 100 used vehicle tires were recorded being used for fishing lobster; these are often obtained as waste at mechanic shops (McConney et al. 2003: FAO 2007). Trap fishers thus mix a variety of fishing gears. Although I use the term trap fishers, part of their fishing activity thus also relates to diving for lobster when they empty their shades. One day they might go to sea to empty their traps, the next day they will be retrieving lobster from their shades. Of the seventeen trap fishers interviewed in the survey, eleven indicated they also used shades.

The division of profits of trap-fishing vessels differs, but has certain commonalities. The boat owner, often the captain, usually has two crew members working with him, who can
be both kin as well as non-kin. In some cases, the crew who are kin will have their own territories to work, and all parties have at least some ownership at stake; the labor provided is based on kin relations and does not involve wage or other direct compensation (King 1999). The other common type involves fishers who own traps, and hire labor to help haul the trap; these helpers can be both kin as well as non-kin. Captains will always deduct fuel costs first, before making calculations for the crew’s share. The distribution of benefits is dependent on the catch of the day, and the profits made are split based on a pre-arranged formula for each person’s contribution in labor and capital (King 1999: 103). In some cases there can also be a combination of wage labor and kin relations. Some trap fishers thus work independently, while others are crew members. On one boat there can be a combination of both.

Eugenio has been a trap fisher for over 30 years on Caye Caulker, fishing with 120 traps and twelve casitas. He owns a boat, outboard engine, traps and casitas and a sea territory of 2 km² in the vicinity of the village. Both his son and a crew member help him out fishing on their day trips. We met when I was doing interviews at the fisheries cooperative receiving station, when he invited me to join them. We meet at 7 AM and move swiftly through the turquoise shallow waters. I have never arrived so quickly at any fishing grounds and in ten minutes we arrive at the first trap. This has been his sea property for years, and Eugenio knows exactly where all the traps are. The helper only needs to hook them with the long pole with its metal hook, while standing at the bow of the vessel.

Eugenio’s son helps haul the traps, and then empties and repairs them, before putting the traps back in the water, mostly at a different spot from where they were retrieved. The son and crew member told me their payment was based on the catch of the day (thus a share system), but that the percentage was non-fixed and that they could not give me an exact percentage of the share they received. The son received a higher percentage than the non-kin, as the son had a more difficult job. He had to pull the trap out of the water, while the non-kin crew member only had to “spot” the traps. This job was perceived as being of lesser importance and difficulty, and therefore the payment was lower. We catch a few stone crabs, fish, and slipper lobster during the day as by-catch in the traps. Everything is taken home except for the poisonous fish.

It’s not until we arrive back at the small landing beach that Eugenio’s son and other helper tail and clean the lobster. This means they have been kept alive in an old trap on board for the entire trip, and thus are of good quality. Eugenio goes and brings the bucket full of lobster to the receiving station of the cooperative with his little golf cart. After they have sold the product and showered, we meet up again, back at the small landing beach and drink rum for the rest of the lazy afternoon in the golf cart, while we talk about fishing. Eugenio’s wife arrives an hour into our drinking session in their second golf cart. “Aha,” she says, “now I understand why you all ran off so fast after you had showered and eaten.” We talk a bit and get acquainted. She ends up leaving, telling Eugenio she doesn’t want him back in the house very drunk.

Lobster trap fishers have high investments. A fisher with 180 traps will have to invest USD 4,500. Fishers’ interviews indicate they have either used their savings (11), have taken out loans from the cooperatives (4), or have been able to obtain a loan from a bank (2). The boats used by trap fishers are less expensive than the sailboats used by divers (see section below) and cost approximately USD 4,000, while engines are approximately USD 3,000.

If divers operate in the same areas, traps can be easily emptied, and theft is common. Fishers complained about these practices to me in interviews, but the literature shows it has been a complaint since the beginning of the fishery in Belize (see King 1997, Sutherland 1986). As investments are so high for trap fishers, theft is considered a serious concern. Many trap fishers complain of other fishers emptying the traps or shades, as well as stealing the traps.
Only three out of seventeen trap fishers did not mention the emptying or theft of traps when asked about conflicts in the fishery.\(^{78}\) Thus although the trap fishery has certain characteristics such as ownership and safety, as you own your own sea territory and it’s relatively close to shore, at the same time theft is common. The sea tenure system is changing, as more tourists visit Caye Caulker. Today, as tourism is taking over as the main source of income in the village, young men are reluctant to become fishers and would rather seek economic opportunities in tourism. The clash between lobster fishing as a fulltime occupation, and the increasing importance of tourism in the village, was particularly visible during my visit in the summer of 2009.

The fisher Gilberto, discussed in the introduction, tells of his fishing “neighbor” William, who has been fishing for lobster for decades, but now wishes to retire. His sea property, however, will remain in his hands. Nevertheless, his son doesn’t want to work as a fisher, and prefers to work in tourism, having no desire to follow in his father’s footsteps. In the village no other young person is interested in either working or buying William’s sea property. Business investors have shown an interest, but William only wants to sell to someone “who works the sea.” Gilberto would have liked to buy the territory and add it to his 2 square miles but he doesn’t have the USD 2,500 required. As the day continues, and Gilberto, his son, and the crewmember continue emptying the traps, I ask Gilberto’s son if he wants to continue in his dad’s footsteps. He laughs timidly, looks away from his father and mumbles, “I really don’t know.”

Thousands of tourists visit these villages every year, and fishers will often be engaged in tourist activities such as such as running a bed & breakfast, offering tourist snorkeling tours or running a bakery or shop. Sutherland (1986) concludes from her research on Caye Caulker that the emergence of tourism in the village parallels fishers’ control over the development of fishing after organizing the cooperative, whereby local families with control over local resources (land and fishing grounds) have developed businesses that accumulate wealth locally. The accumulation of wealth from the lobster fishery supported the development of tourism on Caye Caulker by local residents rather than outsiders in the 1970s and 1980s, as locals—most often fishers—had the capital to invest (King 1999). Fishers interviewed indicated they earn extra income as tour guides, renting their house or cabins, taking tourists on fishing trips, running a grocery store, or working on the side as a water taxi. Of the seventeen trap fishers interviewed, fourteen indicated they earned additional income from these alternatives.

In order to protect the fishery, it is closed for three months of the year for lobster fishing (in Belize the closed season runs from 1 April to 30 June). Usually at the end of the lobster season, fishers will go out fishing less frequently, as the availability of the resource

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\(^{78}\) Besides theft, hurricanes are also a major concern for fishers. They will often lose traps, boats, and gear, and sometimes even their lives. The 2006 NFCS annual report provides an illustration of the role hurricanes play in daily life. “It is stated that there is going to be another active Atlantic hurricane season. Let us pray that our country, Belize, is not in the path of one of these hurricanes when and if they form. However, if we are in the path and sustain a hit, let us prepare and ask the Almighty to save our families, our communities, our industry and ourselves, as with the preparation the consequent re-building will be much easier.” Hurricanes thus affect trap fishers more heavily than divers, as their traps and shades, and thus their investments, are often lost.
starts to decline and at times the weather doesn’t permit them to go out. Trap fishers are single-species fishers, as they only target lobsters, and will not fish at all during the closed season.

**Divers**

The coastal village of Sarteneja, in Corozal Bay in the north of Belize, has a large fishing population (see Map 4.1), with fishing being the major economic activity of the village. There are approximately 1,591 fishers, which means one-third of the total fishing population of commercial fishers in Belize lives in Sarteneja (Programme for Belize 2003). Fishers here are the descendants of Mexican and Mayan refugees of the Caste War which took place on the Yucatan peninsula in Mexico. As the community was established in 1854 by Mexicans fleeing persecution by the Spaniards, the primary language has remained Spanish, despite the fact that English is the official language in Belize.

The brackish waters surrounding Sarteneja are not particularly good for fishing. Yet these fishers at one time also had their own fishing cooperative, just like those in Caye Caulker. Until the beginning of the 1980s, Sarteneja had its own fishing cooperative, and fishers would make the long commute up and down the coast to the good fishing grounds in the middle and south of Belize. Fishers would not fish in the bay where Sarteneja was located because the fishing was not very productive, and fishers would take their boats to central and south of Belize to fish. This was, however, very time consuming, and fishers started stationing their boats in Belize City and selling their product to the two cooperatives there.

The cooperative in Sarteneja deteriorated as a consequence. As more and more fishers started selling their product to the cooperatives in Belize City, they stopped paying off their debts and selling their product to the fishing cooperative in Sarteneja. The cooperative went bankrupt and the fishers joined the other two main cooperatives in Belize. Currently, the Sarteneja fishers thus work out of Belize City, which implies a four to five-hour bus commute from their homes to the sailboats stationed in Belize City. In some cases, divers working on the sailboats in Belize City don’t come from coastal towns like Sarteneja, but from the interior towns and villages of the country, such as Orange Walk.

| After sailing for one week in November 2006 on the sailing dory “La Princessa,” I decided I would visit each fisher in his home to get an impression of how they lived. Six of the fishers lived in Sarteneja and I joined them for a few days. I was passed around the six fishers like a valuable prize. They had made a complete rotation system whereby I would have breakfast at one, lunch with another, dinner with a third, and then spend time playing pool and drinking with yet another fisher. Two of the other fishers—two young brothers, Giovanni and Josua—lived in an inland town called San Jose. This town is located adjacent to a small road surrounded by miles and miles of forest and cropland. It took me nearly four hours travelling from the coast to reach this rural village, where the occasional car or bus that passed by on the road appeared to be the only excitement. Giovanni and Josua lived with their parents on a farm, and had been raised as farmers. They had been taught to drive a tractor and plant corn, but when they became older and needed more money, an uncle had taught the oldest brother Josua (at that time 18) to go to sea as a cook. He explained his mother practiced with him for weeks how to make tortillas, fry fish and lobster, and make potato salad and johnnycakes. He previously had never cooked, as this had been the task of his mother and sisters. After spending two years on board as a cook, and practicing diving during his hours off, he decided to become a full-time fisher, and now his younger brother Giovanni (17) has become the cook on board. The brothers slept together on board in the small galley in the front of the boat, and the older brother would sometimes help the younger one cook or clean dishes, as he knew, he told me, how tiring the job could be at |
times. When I came back three years later, both brothers had left fishing. The younger brother had joined his dad at the farm, as he had now become a parent himself, while the elder was now learning to become a car mechanic.

Divers leave to fish for approximately eight days, doing so mostly in the fishing grounds in the central and southern area (e.g., Glover’s Reef or Turneffe Key). Fishers can fish anywhere except for those areas designated as MPAs. The sailboats, often called “dories,” have a small auxiliary motor and often sail far offshore. They are mostly stationed in Belize City. The sailboats are made of wood, with a minimal auxiliary power in the form of a small outboard engine (15-40 hp) fastened to the stern. The outboard engine is commonly only used when the boat is moving from one fishing spot to the next during the week. They are mostly up to 9-10 meters in length, although a few boats are longer and up to 14 meters. The reefs where the catch for divers is best (e.g., Glover’s Reef and Turneffe Reef) are up to approximately ten hours sailing time—or even up to two days sailing if they have left late on the first day—from Belize City.

When they leave in the morning from Belize City, they will reach the fishing grounds in the evening, and can start fishing the following morning. Before departure, fishers will spend hours, and sometimes even a whole day, collecting the ice, fuel, drinking water supply, and provisions they will take on board. Sometimes gathering the provisions, ice, and fuel and water takes too long, and they end up leaving Belize City after lunch. In this case they will spend the first night at a nearby key, and then sail the remaining part the next day. They won’t be able to fish, however, until the day after. If you count the day for the return this means the fishers might spend three days travelling, out of their nine to ten-day journey. These days they don’t make any money, but they do spend money on food and fuel, while their costs at home obviously continue as well.

Sailboats commonly carry nine to twelve divers. The large sailboat is used as the “mother ship” where divers eat, sleep, and store all their catch. The boat owner is commonly the captain, although in some cases boat owners employ a captain to “work the boat.” Each diver brings his own small canoe, made of wood or fiberglass, to fish for conch, lobster, or
finfish during the day. Divers are thus multi-species fishers, catching conch, lobster, or finfish or a combination of these, depending on the season.

At around 6 AM, right after breakfast, fishers will leave the dory in their canoes to hunt for conch, lobster, or finfish. Breakfast can consist of some undersized lobsters with tortillas, some buns, johnnycakes, and often tea or coffee. On one boat the fishers preferred tortillas to rice, as they said it filled better, but I have also been on a journey where hardly any tortillas were made and rice was eaten every day. They spend the entire morning away from the sailboat, out by themselves looking for lobster, conch, and finfish. There is no territorial system like in the trap fishery, and divers can fish “anywhere.” Divers are in fact very mobile in comparison to trappers and move to a new fishing location every day. Conch is retrieved by hand from the seabed, lobster using a metal stick with a sharp hook to get them out from underneath rocks and coral, while finfish are caught by speargun. Lobsters at times are killed instantly by the sharp hook (see Fig 4.5). However, some will survive until they get back to the boat at the end of the morning and those are not tailed until the fishers are back at the boat, in order to prevent quality loss. The divers do not use any auxiliary gear, but dive up to 25 meters purely on lung capacity while catching lobster, conch, and fish. I have only witnessed a few fishers wearing complete wetsuits, and usually they will just work in shorts, socks, and flippers.

The first trip on a sailing boat in 2006 was with Captain Bildo. Upon my return in 2009 I discovered Bildo had sold his boat and was now working as an independent fisher on Juan’s boat. Bildo was very excited to bring me along again but needed to convince Juan that I wouldn’t be a nuisance. This took some convincing, but I end up going along with Juan in a very large boat that he and his brother had built themselves. We ended up losing a day, as the cook had been sent to buy some extra fuel but never returned. He most likely got sidetracked with the USD 100, and although the fishers looked for him frantically, we ended up leaving nearly a day behind schedule, with no cook. Every fisher then had to take a day’s responsibility for cooking and washing up. We ended up eating a lot of plain rice, fried lobster, and fish with ketchup. As Juan was now the captain, he had taken full responsibility for my presence on board, and I went out fishing with him every day instead of with Bildo.
The canoe is tied with a long rope to their waist as they swim across the patches of rocks and coral. The entire catch is stored in the canoe, and neither conch nor lobster (if at all possible) is killed until the canoe gets closer to the sailboat at the end of the trip.

Fig. 4.5: The caught lobster is retrieved from under the rocks and brought up to the dug-out canoe.
Source: Author

Upon their return to the mother boat, between noon and 2 PM, fishers will clean the fish, conch, and lobsters they have caught. It can get busy at the boat if all fishers arrive about the same time to clean their product. Lobsters are cleaned on board by taking off the head and “gutting” the tail with the lobster’s own antennae. The tails are soaked on board in a bucket of fresh water with a tiny bit of sodium sulphate, in order to prevent melanosis (dark discoloration).  

The tails are stored in new transparent plastic bags in the ice cooler on board every day. The different sea products are all stored in separate bags in the ice cooler, and fishers mark their individual bags with a certain mark, like a can label, or playing cards. These marks will identify the owner of the bag upon their return in Belize City. The large ice cooler is constructed at the center of the boat. It is filled with chipped ice, and each afternoon a few fishers will readjust the ice in the cooler when everyone wants to store their newly caught bags of product. The ice cooler is made of fiberglass, and once covered with its thick lid will additionally be covered with a large plastic cover to keep the product clean and cool.

After cleaning, the fishers will have lunch. This often consists of fresh fish, lobster, or conch, but fishers also bring chicken and beef to eat during the week. After lunch they will usually not go back out to sea—only in case they have had an exceptionally bad catch that morning. Often the few hours in the afternoon—after the product is cleaned and before night falls—are used to move the boat to a new location in the fishing area, or to clean or repair parts on the boat. By moving to different locations, various fishing grounds can be worked. The captain and crew discuss what fishing grounds are to be fished. Although hierarchically

79 Melanosis or blackspot is a dark discoloration, which is unattractive to consumers and reduces the market value of crustaceans. Sulphiting agents are still the most effective and practical method to prevent melanosis but residual levels should be low since they can produce health problems for consumers. In the case of trap fishers this is done at the cooperative.
the captain holds the most powerful position, he will often discuss the best fishing area to be fished with the rest of the fishers.

When the fishers are finished with dinner, they play dominos, cards, or listen to the radio if they are still close enough to the coast to pick up a signal (see Fig. 4.6a and Fig 4.6b). They listen to the weather report once a day, and twice a day if they are going through or expecting bad weather. The radio is very important, as their fishing grounds are too far from shore for their cell phones to work. In addition they will often bring life jackets, and usually a compass.

Fishers bring along chicken, as well as beef, but this is not sufficient and they supplement their diet on board with freshly caught fish and undersized lobsters. Fishers guessed that during the lobster season they might eat up to 15 pounds of lobster per boat per fishing trip. These are undersized lobsters that are used for breakfast, lunch, or dinner (see Fig. 4.7).

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80 See Chapter 7 for a discussion on the potential for salmonella contamination by stocking chicken in the same ice cooler as lobster.

81 If—considering the number of boats, fishing trips, and the length of the season (8 months)—the amount of small undersized lobster taken above and beyond the numbers taken according to the government is quite large, and could significantly alter the total figure of undersized lobster taken. The results from the survey and my observations on the diving boats do not provide conclusive evidence for an illegal catch (lobster caught out of season, berried females, undersized lobsters) higher than ten percent, but it does definitely point in that direction. New research is necessary to obtain more precise data on this issue.
Often brothers, uncles, cousins, and nephews can be found on the same boat, yet this is not exclusively so, and fishers often change boats as well. Fishers state they will try and find a boat they are comfortable with and stay with that boat. Yet as captains and fishers move across the different boats, this will affect whether other fishers still feel comfortable with that boat. Although fishers of sailing boats appear to at least know each other before going out fishing together, they do not necessarily have to be family or friends. Divers often move from boat to boat. A captain might sell his boat, and if a new captain takes over, only a few will stay behind. The rest disperse themselves over the other boats. Several fishers indicated they had been on three to four different fishing boats over the last five years.

In 2005, Bildo bought the boat “La Princesa” from his brother Eddy. When I went out fishing with the “La Princesa” in 2006, his brother Eddy was an independent fisher on Bildo’s boat. Eddy needed money to support an ill family member and had to sell the boat. Another brother fished on this boat and the crew members were happy with their team. Upon my return in 2009, however, I was told that in 2008 Bildo needed money, as his family had grown to include four daughters, and he had sold the boat to a fisher named Alejandro. Bildo did not continue fishing on “his” boat but started fishing with another boat called the “INRI”. Eddy in the meantime worked on yet another boat, and so did most of the other crew members that I had previously been fishing with. Two had left fishing all together, while only two fishers who had worked with Bildo previously on “La Princesa” had remained working on the boat with the new captain Alejandro upon my return in 2009. This example shows that boat/crew membership is not fixed and neither is boat ownership. Fishers move from one boat to another, and captains sell and buy boats frequently.

A captain who is able to keep order and find good fishing grounds will gain respect among the crew. Fishers indicate a boat is considered respectful if captains don’t yell at them, if it is a boat where all fishers will get a plateful of food no matter what time they return from the fishing grounds, and is a place where one can work and live side by side peacefully, where few quarrels exist. Fishers mentioned other boats where things can get rowdy, where fishers smoke marijuana and cigarettes, and where fishers will lose their chance of a meal if they fall asleep. I witnessed only one boat where the captain brought his wife and young child along on all fishing trips. She didn’t participate in fishing, but spent the time on board taking care of their child and doing some of the chores.
Fishers also cooperate in times of need. If a boat encounters problems with fuel supply or fresh water storage, for example, another boat will help. Fishers won’t fish “together” with other boats, but they will sometimes “tie up” together for the night if they are close to one another. Although fishers work at such a distance from shore, they know exactly which boat is operating in which area. Fishers know each other from the villages, bars, and cooperative, and know the fishing areas certain fishing boats frequent.

Fishers complained they had to work hard at times for their captains (e.g., cleaning the algae off the boat’s hull) while not getting paid. A few independent divers who previously had been captains told me they preferred not to be captain, but to work independently, as “it’s too much hard work.” A fisher named Gancho explained:

My stepfather taught me to fish, so I started fishing. I was a captain for seven months, but it’s too much work. You don’t pay the 4 lbs a day, but that’s all the advantage. You have to work hard, steer your boat through the rain, and when the waves get high, you have to know all the passages through the Big Blue, Tobacco Key [names of sea areas] and all of them and keep your fishers safe. 82

After having been a captain and selling their boat, they thus give up part of their earnings, but also gain a bit of freedom, as they say. You don’t need to organize food, fuel, water, and ice before a trip, to solve potential problems on board, fix engine problems, give guidance on fishing locations, and provide credit to your fishers if needed. In addition, if you are a captain, you can never skip a fishing trip, as you need to be there for your crew, while other fishers indicate they skip a fishing trip sometimes when a family member is ill, or they want to spend more time with their family. A fisher, who had previously been a captain, told me how he had recently skipped a fishing trip, as his wife had begged him to stay home. “She told me ‘life is not all about money,’ and convinced me to stay another week ‘because it was my daughter’s birthday.’”

Divers fish in the extended shallow reefs of Belize. The shallowness and the presence of many keys and atolls make it relatively safe. In case of hurricanes or tropical storms, fishers are easily able to find refuge. In addition, divers are only permitted to dive “free-lung.” The use of scuba gear or hookah equipment is illegal in commercial fishing in Belize. Both scuba and hookah often cause decompression sickness among divers. The fact Belizean divers are not allowed to use this thus makes their working conditions relatively safe.

Remuneration

Remuneration differs per fishers and per fishing group. As we have seen in the previous section, in the trap fishery the owner makes the largest profits, but also makes the largest investments (boats, traps, sea property, etc.). The crew is paid according to a share system, although there is no fixed share system in place. The captain sells the product to the cooperative receiving station at the island, and maybe brings the “rejects” to sell in his own or someone else’s tourist restaurant. Trap fishers are single-species fishers and thus only catch lobster. Nevertheless, they are usually also employed in the tourist industry in Caye Caulker.

The remuneration of divers is slightly more complicated. We have seen in the previous section that sailboats host nine to twelve independent fishers, and that all profits go to the

82 Interview E5: 05/11/2006
individual fishers after a number of cost deductions. Prior to the trip the captain will pay for provisions, fuel, and ice. This amount will be shared by all at week’s end, calculated per head, and usually amounting to approximately USD 65-75 per person. In addition, each fisher pays the captain a fixed price per day for the use of the boat. Fishers pay 1 lb of lobster per day during the lobster season or 4 lbs of conch (market clean) during the conch season per fishing day. Sometimes captains will give their crew a break if they only fish half a day, or the weather has been bad. However, on a fishing trip on one boat where I was a participant, fishers complained that the captain never gave them a break, and one fisher commenting on his captain said while we were out fishing: “When we start fishing, the clock starts ticking.”

Another captain told me proudly that even his dad—who was 73 at the time—had to pay him the 4 lbs of conch and 1 lb a day, when he worked on his boat. When I expressed my surprise, he responded that his dad had not always treated him fairly over the years, in comparison to his brother. And, he added, you have to be fair to all your crew. In addition, divers pay the cook USD 15 (and as a cook once explained to me, this was actually divided into USD 2.50 for cleaning the dishes and USD 12.50 for cooking).

Captains of sailboats have a lot more invested in the boat than trap fisher captains, as their vessels cost around USD 11,500-15,000 and USD 5,000, respectively. Yet, divers in general have much less invested, as they only have their canoe, peddle, mask, flippers, and a speargun. Spearguns are not used for lobster or conch, but only to catch finfish. As all divers are multi-species fishers, they will all have a speargun as well. Divers may have fewer investments, but they also have fewer economic alternatives, as they might only spend two days at home before returning back to sea. Of the thirteen divers interviewed, two did indicate that they earned additional money as tour guides, while one also occasionally worked at the landing place for one of the cooperatives. On occasion, fishers will skip a fishing trip in order to stay with their families a bit longer. This is not for the purpose of engaging in other economic alternatives, but rather is just a way to spend more time with the family, or it happens in cases where the divers are ill. As divers target multiple species, they can continue fishing even when the lobster season is closed, so their fishing is a year-round activity.

After catching the lobster either by traps or diving, the lobster is sold to one of the four fishing cooperatives. The fisher builds a track record of how much fish, conch, and lobster he produces in a year, and in relation to his catch volume he is able to receive benefits from the cooperative. These are, for instance, access to credit for gear, gasoline, and provisions, and the use of ice-rooms/storage rooms. Other benefits fishers also have that non-members do not have include a Christmas bonus of around USD 100, medical care of approximately USD 150 per year, and coverage of burial costs when a fisher dies at sea. Cooperatives also often have several funds and reserves that help their members: they may have an education fund, a disability fund, hurricane fund, pension fund, or a lobster aquaculture fund (in case of NFCS). This provides fishers with a form of security.

In Chapter 1, I have described the historical development of the fishing cooperatives in Belize. Currently there are four cooperatives in operation. Only two of these have processing licenses and facilities. In 2004 the four cooperatives had a total membership of 1,396 (producing and non-producing) (Belize annual report 2005). The difference between producing and non-producing members is related to whether they have actually sold the cooperative fish product (lobster, conch, or fish) over the past year. Producing members are
fishers that deliver their catch in their name to the cooperative. Non-producing members can be fishers that deliver in another person’s name (see next section), but they can also be retired fishers or related to fishers that are currently engaged in other economic alternatives, but who might return to fishing in due time.

<table>
<thead>
<tr>
<th>Cooperative</th>
<th>Location</th>
<th>Number of producing members</th>
<th>Number of non-producing members</th>
<th>Total number of members</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFCS</td>
<td>Belize City</td>
<td>373</td>
<td>342</td>
<td>715</td>
</tr>
<tr>
<td>National</td>
<td>Belize City</td>
<td>324</td>
<td>170</td>
<td>494</td>
</tr>
<tr>
<td>Caribeña</td>
<td>San Pedro</td>
<td>15</td>
<td>121</td>
<td>136</td>
</tr>
<tr>
<td>Placencia</td>
<td>Placencia</td>
<td>32</td>
<td>19</td>
<td>51</td>
</tr>
</tbody>
</table>

Table 4.1: The cooperatives, their locations, and numbers of producing and non-producing members (2004).
Source: Fisheries Department Annual Report, Belize, 2005

Table 4.1 shows that the National and NFCS are the largest cooperatives. Northern (i.e., NFCS) has 715 members in total, National 494, followed by Caribeña with 136, and Placencia with 51 members. When looking at the producing members, however, Northern and National are nearly equal with 373 producing members at Northern, versus 324 producing members at National.

The fishers receive an initial price for either product, called a “first payment.” The first payment is generally set high, as an incentive for fishers to be loyal and sell their lobster to the cooperative.\(^{83}\) After the fiscal year has been closed and all expenses and income calculated, all benefits are returned via second payments to producing members. The cooperative calculates the second payment by the total income the cooperative has received throughout the season, minus the difference of the first payment, processing costs, and other costs, such as administrative costs and financial costs related to outstanding debts. The second payment is dependent on the product weight the member has produced over the year (lobster and conch). The official announcement of the second payment comes during the cooperative’s Annual General Meeting, held each year after the cooperative’s accounts are audited (King 1999: 116). The second payment enables fishers to “save” part of their income for a later moment and tides them over when income is low.

At the NFCS the first payment was between BZD 18 and BZD 20 per pound in 2006 (at the time, 1 Belizean dollar (BZD) was equivalent to USD 2) with a second payment up to BZD 9, for conch this amounted to BZD 4 for the second payment. The second payment in 2005 had been BZD 8.75 per pound for lobster tails and BZD 1.50 per pound for conch showing the fluctuations of second payments (in this case for conch). The total price per pound of lobster was thus BZD 26.75, which equals approximately USD 13.37 per pound. The NFCS also supplied an additional bonus for those fishers who delivered their catch in Belize City, paying BZD 0.10 per pound for lobster tails and BZD 0.15 per pound for conch. However, all of these figures are relatively flexible on close inspection. First, there are differences between the two large cooperatives. Especially during the economic crisis the fishers at Northern would receive higher prices than fishers at National. In addition, the

\(^{83}\) As we saw in the previous chapter, fishers from the National cooperative didn’t switch to the NFCS until the second payment was made in 2008, in the heart of the economic crisis. The moment they found out the second payment was so low they switched over.
second payment changed markedly because of the crisis. At some point fishers were receiving no second payment or only BZD 0.25 while the first payment had dropped to BZD 12-14. In addition, fishers might sell part of their catch through intermediaries or part to another cooperative (see section below).

Typically, fishers who sell their product to the fishing cooperative, of which they are a member in Belize City, will receive a personal check from the cooperative. The following steps can be observed in the process of sale:

a) Fishers will bring their product by sailing boat or their own skiff to the cooperative, of which they are members.

b) Fishers wait in line (up to an hour if it’s a busy day) to bring their product to the cooperative employees who will check the product.

c) Cooperative employees will go through the product in order to take out the rejects (soft-shelled lobster, lobster with cracked shells, tar spots, or undersized conch and lobster).

d) The product is now weighed in total per product (lobster, conch (market clean or filet), finfish filet etc.).

e) A note is made with the name of the fisher, the membership number, number of pounds per product (lobster, conch (market clean or filet), finfish filet etc.), and date.

f) The fisher signs the note in his name and takes the note to the cooperative administrators. If the fisher has a debt with the cooperative they will deduct a certain amount from the paycheck. The remaining amount will be on the personal check which the fisher can cash at the bank.

g) Fisher goes to the bank.

h) The above is often followed by a trip to the Bamboo Bar, a large bar in the harbor filled with fishers, their girlfriends, wives, and perhaps even a few prostitutes. It’s a lively bar where all fishers catch up on the recent gossip and fishing activities, but also a place that is frequented by officials from the Fisheries Department or coast guards who will come here to have a beer and chat with the fishers, and thus enhance their relationship with the fishers.

Every few hours the Sarteneja fishers will leave the Bamboo Bar in a rush, drunk and carrying along more beers, as they jump on the bus to their hometown in the Northern zone. And at times wives or girlfriends will come down from Sarteneja to wait for their husbands’ return and secure some of the wages, before their husbands spend it all at the bar. The women want to make sure they end up with some of the fishing’s profits in their hands.
This section has shown that the material well-being of trap fishers and divers is quite different, even though they also share commonalities. The working conditions of trap fishers are relatively easy. Fishers own their own sea territory, which is located close to shore. They are day fishers who leave early in the morning and return in the afternoon. Their working conditions are thus very safe. The capital investments for the boat and traps are very high for the owner, but the crew makes no investments. Trap fishers are single-species fishers who only catch lobster, so do not fish at all during the closed season. They are, however, often engaged in economic alternatives such as tourism.

Working conditions for divers are more intensive, as they are gone for eight to nine days at a time and spend approximately eight hours a day diving in the sea to fish. It is hard work and on average they only spend two to three days at home. Their opportunities to engage in economic alternatives outside of fishing are limited. Safety is relatively high, and although divers often work far from the coast, the extended reef of Belize is very shallow and there are many small keys and atolls where fishers can find refuge in times of hurricanes or when they have fallen ill. Divers are multi-species fishers who also catch conch and finfish. During the closed season they thus continue fishing for other products.

For both types of fishers the remuneration is high, as fishers are mostly members of fishing cooperatives. These cooperatives have been granted exclusive export rights. As a result, all benefits flow back to the fishers, and fishers are able to reap some of the highest benefits for lobster in the region (Huitric 2005).

4.3 Relational well-being

The distribution of lobster catches in Belize differs between trap fishers and divers. The majority of lobsters are legal sized, yet a percentage, currently held to be roughly ten percent is undersized (FAO 2007). Divers will catch more undersized lobster for their own
consumption, as they consume it on board during their eight- to nine-day trips. Trap fishers will sell more lobster to the hospitality industry, as these fishers themselves often also work in this industry, and their village is full of hotels and restaurants. Divers return straight back to Belize City, and therefore have less opportunity to sell undersized lobster to the hospitality industry.

A large percentage of lobster is sold directly by divers and trap fishers to the cooperatives. Yet as this section will show, intermediaries might be responsible for buying up to 40-50 percent of the total catch sold to cooperatives. The two cooperatives NFCS and National are the only seafood companies permitted to export seafood product from Belize. All exported lobster from Belize is therefore processed at one of their two processing plants. As divers spend up to ten days on board, their consumption of lobster is higher than that of trap fishers. Trap fishers are often located in Caye Caulker or San Pedro. These fishers cannot sell directly to the two large cooperatives, but either sell to the receiving station in Caye Caulker, or the Caribeña cooperative in San Pedro. The lobster will finally be further distributed to the two large cooperatives with export permits.

Most export from the two processing plants is destined for the US, but a minor proportion is also shipped to Mexico, Canada, and Asia. Especially in recent years, since the economic crisis, the sales to Mexico have been on the rise (see also Chapter 7).

The Cooperative Societies Act of 1948 structures lending relationships between cooperatives and their members (King 1999). When members avoid their commitments by not marketing to the cooperative, the remaining membership bears the burden of the disloyal member’s unpaid debts, realized as an increase in costs in order to fund the credit pool, and maintain the cooperative’s resilience over time. The loans provided by the cooperatives are both a blessing to fishers, as they have few alternatives to seek credit, but also carry the seed for the destruction of the cooperative.

The cooperatives distribute credit at the beginning of the lobster season to make the terms favorable for members, and because members repay their debt to the cooperative through the value of the catch marketed to it. Capital is secured by the cooperative from a lending institution, and the cooperative then makes it available to participating members, who must follow specified rules concerning repayment in order for credit to be available in the future. Loans can be quite substantial, with loans between USD 2,000 and USD 5,000 to purchase materials to build and repair traps, boats, and engines, and sometimes will include larger loans in excess of USD 15,000 (King 1999: 32).

According to the literature (Huitric 2004; King 1997; Gillet 2003; McConney et al. 2003), fishers in Belize sell nearly exclusively to the cooperative, of which they are a member. However, in cases such as Caye Caulker, with its large tourist market, fishers will also sell part of the lobster product to hotels and restaurants there, but also to ones in San Pedro. In Belize, officially there are no intermediaries, as fishers in general are members of one of the fishing cooperatives and usually sell directly to these. Only fishers who are not yet members, and still have to prove themselves, will sell to the cooperative through another member. The existence of intermediaries in the Belizean lobster fishery has therefore not received much attention in any publications to date.

There is a general conviction concerning the absence of intermediaries in the Belizean fishery. There have been accounts, however, of members selling the product in the name of
another member. King (1999) provides an interesting and in-depth account of the process of filtering by the lobster fishers on Caye Caulker. He describes the process of filtering as members who sell in the name of another member in order to avoid paying off their debts and/or the desire for more immediate cash in the short term rather than the long term. The fishers selling the lobster to another fisher will receive a higher payment up front, but will lose a margin to the fishers selling to the cooperative, who will then take the second payment. The second payment is largely unknown beforehand, however, so it is a bit of a gamble for both fishers involved (see examples below). In King’s research on the NFCS on Caye Caulker, the first fisherman’s cooperative ever established in Belize, he concludes that this filtering started when hundreds of unknown fishers joined the cooperative. Originally, fishers knew the size of each other’s debts with the cooperatives and how they were being paid off. Fishers kept an eye on other fishers, to make sure they were paying off their debts and not selling off product in some other way.

As the number of fishers grew, however, the credit process became more anonymous and fishers were unable to access the debts of other fishers without their consent, thus supporting a system whereby fishers were no longer able to monitor the credit repayment behavior of the other fishers. When the fisherman’s cooperative in Sarteneja went bankrupt due to lack of repayment of loans in the early 1980s, the remaining fishers joined the NFCS. According to King, the influx of hundreds of unknown members resulted in an increasing rate of filtering, and member delinquency. The result was less control, trust, and monitoring among the members with regard to the levels of loans and repayments, and it became more acceptable to sell through other members as “everyone is doing it.” Free-riding became commonplace, although fishers are aware of the possible consequences (Huitric 2005).

None of these authors use the term intermediaries, when they see fishers selling through other fishers rather than through the official intermediaries that can be found in other countries. My data, however, suggest that currently the system of filtering has developed into one of actual intermediaries. These intermediaries provide services, such as credit, to individual fishers, as well as supporting certain boats with fuel and ice. They are relatively difficult to spot at first, as they are present on the grounds of the cooperatives, and simply appear to be fishers. They are located at the receiving station in Caye Caulker or in Belize City. On occasion they are even board members of the same cooperatives that officially do not allow intermediaries to be present on their premises. Rather than selling directly to the cooperatives, the fishers will sell to the intermediaries, who in turn sell directly to the cooperative—while all this takes place at the cooperative itself. Fishers will arrive with the product, but sell in the name of the intermediaries. Intermediaries are thus members of the cooperatives and, even though they do not go out fishing, they make large sales to the cooperatives.

The official policy of the cooperatives specifically declares that intermediaries are not good for the long-term benefit of the cooperatives, and should not be present on the premises. Yet cooperatives have turned a blind eye to the current practice and, according to interviewees, some of the intermediaries are actually board members of the cooperatives. Intermediaries give the fishers a higher price than cooperatives up front, but as a result fishers lose entitlement to the second payment. The intermediaries gamble on the height of the second payment and thus need to stay in close touch with market developments, and hope to
generate a profit of around USD 0.5 to USD 1.50 per pound. One middleman told me he had access to the Urner Barry site (which is an American food product pricing institute which costs a few hundred dollars per quarter) to follow the international price development of lobster in the US. Urner Barry provides an update twice a week on all lobster prices at the importer/retail market in the US, and provides monthly updates on lobster market developments. Investing in access to these types of databases is thus quite advanced, and goes well beyond filtering and selling in another fisher’s name.

In interviews intermediaries indicated they have groups of fishers working specifically for them. These are not random fishers that decide they will only sell through a middleman on a single occasion, because they, for instance, need to buy their children books and school uniforms at the beginning of the school year (which does frequently take place), but are fishers that work exclusively with a particular middleman. The intermediaries work with two types of fishers—a group of fishers that sell exclusively to them (for example, one middleman might have 20-25 fishers working exclusively for him), and fishers that occasionally sell to them. Intermediaries also give credit to fishers before their trips, just like cooperatives, and one middleman indicated fishers owed him USD 8,000 in loans. Intermediaries will sell to the cooperative in their name once the fisher has weighed the product and all rejects are taken out.

When I thus refer to intermediaries, I do not mean the filtering process as described by King, which also takes place frequently. Fishers often told me they initially sold through the name of the captain to ensure a higher price (and thus lose the second payment), or, for example, in the name of their father. They do this to make an extra dollar, but sometimes also to, for instance, help their nephew or brother, who has been selling mostly through intermediaries, to make the minimum sales to the cooperative necessary to receive the Christmas bonus. These are not intermediaries, however. Divers go out on long sailing trips and are full-time fishers, and so are not even able to act as intermediaries. Trap fishers are constrained by the fact they often live far away from the cooperatives. The intermediaries I am referring to have made it more or less their profession, and have extensive financial capital to fund fishing operations. They spend all their time at the cooperative and do not go out fishing (this includes intermediaries observed and interviewed in both Belize City as well as Caye Caulker). In addition, they have access to market information which regular fishers do not (Urner Barry updates on international prices).

The intermediaries indicated they face the same challenges as the cooperatives at those times when fishers shy away from selling their product to them since they have to pay off their debts. One middleman stated he works six days a week, and on Sundays too if necessary. He doesn’t like taking a day or afternoon off, he says, as he “doesn’t like the idea of losing money.” If he isn’t there himself, fishers he otherwise could have traded with will sell to another trader.84

In conclusion, one could say there are a number of ways in which fishers can sell their catch to the cooperative:

1. A fisher can sell his product in his own name, and pay a small percentage of his first payment towards his debts (if applicable). He receives the second payment at the end of the fiscal year.

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84 Interview G2: 27/10/2006
2. A fisher can sell his product in the name of another fisher. A diver might sell the product to his captain, for example. If the first payment is USD 8 and the second payment that year is expected to be USD 3, the captain will pay the diver USD 10 per pound. At the end of the year the captain or another fisher he has sold to will pocket the extra dollar on all the pounds he has sold under his name. Sometimes fishers will sell in the name of a family member to help him to receive certain bonuses. I watched a fisher sell the product in the name of his nephew, so he would receive his Christmas bonus at the end of the year.

3. Fishers can go to a cooperative where they are not members (members of Northern to National and vice versa). This could be for several reasons, of which the most important are that:
   a. They do not wish to pay off their debts to the cooperative of which they are a member (board members of the cooperatives estimated in interviews around 70 percent of the fishers are indebted to the cooperatives).
   b. The other cooperative is giving a better price.
   c. The intermediaries of that cooperative is giving a better price.

4. A fisher can sell through a middleman of the cooperative, of which he is a member. He receives one payment up front, but loses the second payment. Interviewees indicated anonymously that National has four intermediaries (of whom three are board members) and Northern has two (non-board members). These intermediaries do not go fishing (anymore), but make enough money as intermediaries (and board members) to make a decent living.

   Thirteen out of 31 fishers interviewed indicated they sold their catch through intermediaries (41%). And when asked how many fishers they believed to sell through intermediaries the answers were between 25-50 percent. One of the board members of a large fishing cooperative in Belize City claimed as many as 40-60 percent of the fishers sold through intermediaries. Intermediaries themselves claimed in interviews that the figure was around 50 percent in 2006, but that it had been even higher between 2000 and 2006. They stated that intermediaries started operating around the mid-1990s, but that only after 2000 had the business taken off; intermediaries also claimed that at the beginning of the year 2000 up to 80 percent of fishers made use of intermediaries.

   The intermediaries indicated in interviews in 2009 that this figure had dropped to 35 percent, as prices were very low and some intermediaries had gone out of business due to the economic crisis. When prices started dropping significantly in 2008, some intermediaries went out of business then. The intermediaries had gambled and lost. The fishers had received a high payment from the intermediaries, but at the end of the fiscal year, as prices on the world market dropped significantly, intermediaries received less than they had paid the fishers. I have estimated—based on data of the June 2005 catch supplied by one of the large cooperatives in Belize City—that in 2005, 42 percent of the catch was sold through intermediaries. Taking the annual production of lobster in 2005 (443,135 lbs) and

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85 The data showed that this month producing members sold 46,274 pounds of lobster tails in total. The fourteen largest sales by “fishers” (value range between 526.5 and 6077.5 lbs, N=14) resulted in an average of 1409.4 lbs per person. The other group of fishers (N=230, range between 0 and 450) had an average of 115.4 lbs per fisher.
calculating the loss in income of fishers to intermediaries, this amounts to a loss of USD 93,058, even if fishers lose only USD 0.50 per pound. If fishers in that year lost USD 1.50 per pound, the fishers would end up losing nearly USD 280,000 to the intermediaries. These figures explain why intermediaries have been jumping into the business, as it can be very lucrative.

The cooperative allows intermediaries with a special permit to work from the premises, even on Sundays when the cooperative is officially closed. Intermediaries will not go out fishing but spend all day at the cooperative. This means that each cooperative is actively involved in the intermediaries’ business. The coops are satisfied if the product is brought to them, no matter how payment takes place. The NFCS 2005 annual report (page 17) states “…we are appealing to all members to begin to deliver their catch in their names to service their accounts. […] If everyone would deliver in their names and commence paying, then we would be in a position in a few years to reduce and eliminate all out external debt…”

In interviews, the Fisheries Department of Belize doesn’t find the existence of intermediaries to be very important. When I asked questions about intermediaries in the fishery, they stated that the occurrence of intermediaries “doesn’t really happen.” Or they would say “Maybe a few fishers, but not many.” He doesn’t want even want to call them “intermediaries,” as he believes they are producing members who sell fishing colleagues’ product in their name.86

Fishers did, however, acknowledge the existence of intermediaries to me, although they were at times reluctant to talk to me about the issue. I spent a few hours observing and talking to fishers at the receiving station in Caye Caulker, when it became obvious that one man was acting as a middleman. He was reluctant to talk about it and one fisher was shocked when I asked him about it. The fisher got really offended and shouted “You can’t talk about it, never.”87 Other fishers, however, as well as intermediaries, were much more open and easygoing about the subject.

The financial mismanagement of the cooperatives has been caused by problems with loan repayment by members, but it is also due to board members taking out personal loans, which they then prove unable to pay back. Northern was close to collapse a few years ago, when it became public that the cooperative had a debt of USD 5.5 million. The government supported the cooperative, however, which saved it from crumbling. The relational well-being of fishers is Belize is more complex than appears at first glance. Although it seems fishers are tightly secured in a cooperative system where most fishers are member of the cooperatives, and all benefits flow back by means of a second payment at the end of the year, my data shows that in reality intermediaries skim off part of the profits. My data indicates approximately 42 percent of fishers make use of intermediaries. Not all fishers depend on these intermediaries for credit for fuel, food, and gear; cooperatives often give loans as well. Divers are all independent workers and, with the exception of the boat owners, investments are low. Their dependence on intermediaries I argue to be higher than trap fishers, as not all

The data thus showed that of the total catch sold in June 2005, 42 percent was sold by fourteen men, giving a clear indication of the presence of intermediaries.

86 Interview C15: 08/08/2009
87 E22: 07/08/2009
trap fishers are independent. To a greater degree than divers, trap fishers are also crew members. Crew members do not sell their catch or use intermediaries, only captains do so.

4.5 Job satisfaction of fishers

The last component of well-being relates to the subjective component. Job satisfaction surveys among Belizean fishers are considered to add an interesting addition to the more objective measures of well-being. This dimension aims to highlight fisher’s level of job satisfaction among the five different categories. In conjunction with these quantitative results I also link it to the outcome of open-ended questions related to the subject of conflicts and the role of the government.

Twenty trap fishers were interviewed in Caye Caulker, and eleven divers in Belize City (N=31). The results of the job satisfaction study showed varying fisher satisfaction within the five categories: Basic Needs, Social Needs, Self-Actualization, Management, and Nature. The Social Needs category scores high, followed by Self-Actualization, Basic Needs, Nature, and Management (Fig. 4.9). Most scores fall well above the midpoint (of 2.5), demonstrating that fishers are satisfied on most counts, except for the Management category.

![Fig. 4.9: Mean values and confidence intervals for job satisfaction categories in Belize.](image)

The lower result of satisfaction with the Management category could relate to the issues raised by fishers in the well-being surveys with partial open-ended questions. Fishers indicated dissatisfaction with the large area that is reserved for MPAs, in their views “at the expense of fishers.” Others complained about the Fisheries Department being corrupt and only “bothering the fishers.” A frequent complaint is the lack of enforcement of fishing laws (e.g., closed seasons, MPAs, undersized catch). Although the category scores lower than other categories, the average is still above the midpoint of 2.5. In the surveys, fishers’ response to questions concerning their attitude towards the government was: ten out 30 were positive, ten were neutral, and ten negative. Fishers believed in half the cases that the government was the most important actor in improving fisheries management, whereas the other respondents believed the fishing cooperatives were the most important actor. The importance of both the government and cooperatives is logical, considering their respective importance to the system.

The high scores on Social Needs and Self-Actualization could relate to the fishers’ autonomous position in the lobster fishery, as most are independent workers. All divers work
independently and, of the trap fishers, a third are captains and independent. None of the fishers spend more time away from their family than nine days at a time, and if a fisher is not a captain he will at times skip a week’s fishing to spend more time with his family. In addition, fishers work no more than eight hours a day. In the evenings, they often listen to the radio, if possible, or play games like dominos or cards. Day trap fishers are home every day with their family and friends, and are able to fully participate in family and community life. As only 31 surveys were carried out, the sample was too small to make a distinction between the two groups; yet one could imagine that divers are less satisfied with “time away from home” and “time to get to the fishing ground” than trap fishers who are only day fishers.

The Basic Needs category scores high as well. This could be caused by the fact both type of fishers have an alternative source of income besides lobster fishing during the closed season, as well as receiving high lobster profits per pound. Divers are multi-species fishers and thus able to target conch and finfish during the closed season. Trap fishers, we have seen, are single-species fishers, but are also engaged in other economic alternatives such as in the tourist industry.

Although all categories, except for Management, score well above the midpoint, and benefits are high in the fishery, the survey showed that 61 percent of the fishers stated they would leave fishing for another occupation, while only 29 percent said they would advise a young person to enter the occupation. It could be the result of a negative view of the future of the fishery. Lobster and conch production have been decreasing substantially in the last decade, and the prices since 2008 have been declining significantly due to the economic crisis. In qualitative interviews, seventeen out of 32 fishers therefore indicated they saw the future of the fishery negatively, in comparison to ten fishers who were more positive about the future and five who were neutral. Those with a negative view stated: “Right now, fishing is really hard so maybe I would want to look for another job,” “I need to do something besides fishing as this won’t be forever,” and “It is bad, bad in fishing and bad in tourism.” Fishers who saw fishery prospects and their role more positively stated: “I always wanted to be a lobster fisher,” “I love it so I am staying to be a fisher,” and “If the lobster is OK, I am OK.”

Results show that there are no significant relationships between the background variables and willingness to change fishing type (see tables below). However, results do indicate that older fishers and those with more fishing experience are less willing to leave the occupation of fishing than younger or less experienced fishers. Willingness to change is expected to be related to levels of job satisfaction—the higher the satisfaction the less willing a fisher should be to change fishing type or leave the occupation of fishing, and the more willing they should be to advise a young person to take up fishing as an occupation. Mean values on job satisfaction categories in relation to responses to these questions are examined in Tables 4.2 through 4.4.

The analysis presented in Table 4.3 indicates that those who say they are unwilling to change fishing type are likely to score higher on the Social Needs job satisfaction category. These fishers enjoy being out at sea, they enjoy being their own master, and are not dissatisfied with the time they have available to spend with friends and family. It is therefore unsurprising they are less willing to change occupations. None of the other differences are statistically significant though. Finally, Table 4.4 indicates that those who are willing to
advise a young person to enter the occupation of fishing are more likely to score higher on the Nature category of job satisfaction.

| Table 4.2: Mean value of job satisfaction categories by willingness to change occupation in Belize |
|---------------------------------|-------|-------|-----------------|--------|
| Change occupation               | N     | Mean  | Standard deviation | t-value |
| Basic Needs                     |       |       |                  |         |
| No                              | 12    | 3.77273 | .278182                |         |
| Yes                             | 19    | 3.52153 | .477061                | 1.649   |
| Social Needs                    |       |       |                  |         |
| No                              | 12    | 4.20000 | .497265                |         |
| Yes                             | 18    | 4.03333 | .445896                | 0.958   |
| Self-Actualization              |       |       |                  |         |
| No                              | 12    | 3.88889 | .591750                |         |
| Yes                             | 19    | 3.71930 | .631119                | 0.746   |
| Management                      |       |       |                  |         |
| No                              | 12    | 2.61111 | .853789                |         |
| Yes                             | 19    | 2.69298 | .583368                | 0.318   |
| Nature                          |       |       |                  |         |
| No                              | 12    | 3.50000 | .738549                |         |
| Yes                             | 19    | 3.21053 | .751217                | 1.052   |

* = p < 0.05 (1-tailed test)

| Table 4.3: Mean value of job satisfaction categories by willingness to change fishing type in Belize |
|---------------------------------|-------|-------|-----------------|--------|
| Change fishing type             | N     | Mean  | Standard deviation | t-value |
| Basic Needs                     |       |       |                  |         |
| Yes                             | 10    | 3.60909 | .540465                |         |
| No                              | 21    | 3.62338 | .372933                | 0.086   |
| Social Needs                    |       |       |                  |         |
| Yes                             | 9     | 3.84444 | .572519                |         |
| No                              | 21    | 4.20952 | .376702                | 2.075*  |
| Self-Actualization              |       |       |                  |         |
| Yes                             | 10    | 3.90000 | .737865                |         |
| No                              | 21    | 3.73016 | .553966                | 0.717   |
| Management                      |       |       |                  |         |
| Yes                             | 10    | 2.70000 | .723503                |         |
| No                              | 21    | 2.64286 | .687761                | 0.213   |
| Nature                          |       |       |                  |         |
| Yes                             | 10    | 3.20000 | 1.005540               |         |
| No                              | 21    | 3.38095 | .610425                | 0.623   |

* = p < 0.05 (1-tailed test)

| Table 4.4: Mean value of job satisfaction categories by willingness to advise a young person to enter the occupation of fishing in Belize |
|---------------------------------|-------|-------|-----------------|--------|
| Advise young to fish            | N     | Mean  | Standard deviation | t-value |
| Basic Needs                     |       |       |                  |         |
| No                              | 22    | 3.54545 | .427323                |         |
| Yes                             | 9     | 3.79798 | .382407                | 1.536   |
| Social Needs                    |       |       |                  |         |
| No                              | 21    | 4.14286 | .551880                |         |
| Yes                             | 9     | 4.00000 | .100000                | 0.764   |
| Self-Actualization              |       |       |                  |         |
| No                              | 22    | 3.68182 | .621291                |         |
| Yes                             | 9     | 4.03704 | .538631                | 1.497   |
| Management                      |       |       |                  |         |
| No                              | 22    | 2.62121 | .692327                |         |
| Yes                             | 9     | 2.75926 | .707652                | 0.501   |
| Nature                          |       |       |                  |         |
| No                              | 22    | 3.15909 | .730074                |         |
| Yes                             | 9     | 3.72222 | .666667                | 1.996*  |

* = p < 0.05 (1-tailed test)
Conclusion

In Chapter 3 we have seen Belize has the highest Human Development Index score of all three countries. I concluded that the fisheries governance style of Belize is one of co-governance. The central involvement of fishing cooperatives is undisputed and the state has been pro-development, committed, and supportive of the initiative by small-scale fishers in the 1960s to organize as cooperatives. From the early 1960s on, the government has given exclusive rights over lobster export to fisheries cooperatives. Only two fishing cooperatives are allowed export seafood products, and as fishers are owners of the fishing cooperatives, no commercial market parties are involved and all benefits derived from the fishery flow back to the fishers. In addition, fishers were well represented in the decision-making process, together with civil society. The state and NGOs have a long history of cooperation in management and enforcement of MPAs.

This pro-developmental cooperative system has also been the key factor in the high levels of well-being of fishers. The state has prohibited licensing of an industrial fleet, thereby allowing small-scale fishers to be the main beneficiaries of the fishery. This chapter investigated the material, relational, and subjective well-being of these small-scale lobster fishers in Belize. This chapter has shown that the lobster fishers in Belize show relatively high levels of well-being, as seen in relationship to the lobster fishers in Jamaica and Nicaragua, who will be discussed in the next two chapters. In addition, we can conclude there is a large divide between divers and trap fishers in Belize.

The working conditions of trap fishers are relatively easy, as fishers own their own sea territory, which is located not too far from shore. They are day fishers who leave early in the morning and return in the afternoon, thus making their absence away from home short. In addition, they often do not go out every day and their working intensity is thus low. Their working conditions are safe, as the fishing grounds are all very shallow and close to shore. The capital investment is very high for the boat and traps, but for crew members non-existent. Trap fishers are single-species fishers who only catch lobster, and as a consequence during the closed season they do not engage in fishing.

Divers leave for approximately eight days fishing trips and are full-time fishers. They are not able to engage in many economic alternatives. Divers are multi-species fishers that also catch conch and finfish, and consequently continue fishing during the closed season, when lobster fishing is forbidden. Scuba gear and hookah equipment is prohibited in Belize, providing a relatively safe environment for divers. The shallow reefs and numerous keys and atolls also help provide fishers with a safe working environment. However, they are absent for eight days at a time, and they work all day swimming in the sea, so the working conditions are ones of high intensity.

<table>
<thead>
<tr>
<th></th>
<th>Trap fishers</th>
<th>Divers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working conditions</td>
<td>Safe and low intensive</td>
<td>High intensive</td>
</tr>
<tr>
<td>Remuneration of fishers</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Single-/multiple species fishery</td>
<td>Single-species</td>
<td>Multi-species</td>
</tr>
<tr>
<td>Economic alternatives</td>
<td>Yes (tourism)</td>
<td>Limited</td>
</tr>
<tr>
<td>Capital investment requirements</td>
<td>Trap investment high, skiffs medium</td>
<td>Gear diving low investment; diving boat</td>
</tr>
</tbody>
</table>
Table 4.5: Well-being of lobster fishers in Belize.

Capital investment for trap-fisher boat owners and captains is high, as traps are very expensive. Investment in gear is therefore much higher for trap owners than it is for divers, as diving equipment investments are insignificant in comparison. Yet, investment in diving boats is much higher than in trap-fishing skiffs. Diving-boat owners’ investments are thus very high in comparison to the other divers and trap fishers.

The fishers sell their lobster in a cooperative system, whereby fishers are actually owners of the cooperative, and fishers receive a second payment at the end of the fiscal year. As many fishers are members of the cooperatives, the remuneration can be high. Cooperatives are not commercial enterprises that skim off the profits, but rather all benefits flow back to the fishers. In addition, fishers are able to receive extras through the cooperatives, such as a Christmas bonus and insurance in case of accidents or death. The system therefore supports a high level of well-being of fishers.

Nevertheless, intermediaries have entered the stage in the Belizean lobster fishery, and are skimming off part of the profits. As a result, fishers will lose out financially, but also lose the secondary benefits of being a member of a cooperative. The use of intermediaries is regarded by all involved to be bad for the fishery in the long term, yet when it comes to the short term, many fishers make use of them. They are thus able to reap the short-term benefits, yet lose out on the long-term ones.

Fishers are generally satisfied with their jobs, as all scores fall above the midpoint. The Management category scores significantly lower, however, compared to the other four categories. Nevertheless, fishers are generally positive about the future of the fishery and most would advise a young person to enter the fishery.

Collective marketing has provided fishers with the institutional means to appropriate most of the value generated through the processing and sale of seafood products, bringing them high returns for their labor and capital inputs in their fishing operations. The cooperatives therefore possess economic as well as political power, and they represent the small-scale fishers in the decision-making process with the government. One could therefore say that the lobster fishery in Belize is one of both individualism and collective action. Fishers mostly work independently, although from a marketing and political viewpoint they are collectively organized. The cooperative system has, however, been challenged by the short-term thinking of many of those involved in the fishery.