The red gold rush: the impact of governance styles on value chains and the well-being of lobster fishers in the wider Caribbean
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Chapter 8 Conclusions

Introduction
Globalization has strongly affected seafood markets throughout the world. This is particularly true for the lobster fisheries of the Wider Caribbean region, which are the topic of this thesis. Commercial harvest of lobster in this region was very limited until the 1950s and 1960s, when international demand from the United States stimulated commercial lobster fisheries. Fishers have greatly increased lobster harvest in the region and have become more and more connected with world markets. This thesis has demonstrated that lobster fisheries currently provide extensive livelihood opportunities and generate massive foreign exchange and tax income for national governments in the Caribbean.

However, the extent to which the fish trade actually provides potential for developing countries to reduce poverty and stimulate local development remains is still being hotly debated (Béné et al. 2010, Wade 2004; Edwards 2006; Kalb et al. 2004; Basu 2006; Thorpe and Bennett 2004). This thesis centers on this topic and analyzes the relationship between the development of lobster fisheries and the well-being of lobster fishers. It has been investigated through three contrasting country case studies, in Belize, Jamaica, and Nicaragua. For this research I have made use of three concepts and theoretical angles: governance, global value chain analysis, and well-being.

Although the three countries are located in the same region, their political, social, and economic development show substantial variation. As a result, the fisheries governance style (Kooiman et al. 2005) was also expected to vary. These governance styles will impact the lobster chain and the ability of fishers to achieve well-being. Following suggestions in the literature, certain governance styles could favor the achievement of well-being, whereas others might hamper fishers’ ability to achieve high levels of well-being.

The functioning of Global Value Chains (GVC) is also expected to influence producers’ ability to achieve well-being (Gereffi et al. 2005). Many GVC analyses have been carried out on agricultural primary food products such as cocoa, coffee, tea, and fruit. Yet these studies have often focused on one particular chain (e.g., the Nile perch from Lake Victoria; Henson and Mitullah 2004; Thorpe and Bennet 2004). This is the first study in the field of fisheries that aims to compare three fisheries of a similar product in a single geographical region.

And finally, I have also made use of the well-being approach. Well-being is a concept common to the social sciences, and has become popular over the last decade in academia, as well as in policy circles (Gough et al. 2007, White and Ellison 2007, Coulthard et al. 2011). Although the concept is frequently tied to financial status, the term is broader than just economic or material well-being on their own, and includes relational and subjective elements that indicate how conditions are perceived by participants. This final chapter aims to answer the three subquestions and the central research question posed at the beginning of this dissertation. I will start with the three subquestions and then move to the central question.
8.1 Governance styles

Subquestion 1: What are the differences and similarities between the current governance arrangements in the three research locations?

Governance has become an important buzzword over the last decades. It refers generally to the development of governing styles in which boundaries between and within public, market, and civil society sectors have become blurred. The interaction between the state, market and civil society at multiple levels can be expected to vary as a result of socioeconomic and political trajectories; in other words, different historical developments will result in distinct governance styles. In Chapter 3, I have examined the different governance styles present in the three countries, largely leaving aspects of market governance to the chapter on value chains (Chapter 7). I follow the same procedure here, touching on market governance below, but discussing it more fully in the following section.

The debate in the fisheries literature on the governance styles that are most beneficial for both fishers and the ecosystem has grown in recent decades (Bavinck et al. 2005; Jentoft 2004; Hersoug 2004; Pomeroy, 2011). Kooiman et al. (2005) distinguish between three ideal typical governance styles: hierarchical, self-governance, and co-governance. The present research began with the premise that co-governance—which involves cooperation between state, civil society, and/or market parties—is the most beneficial style for improving the well-being of fishers (Hersoug 2004).

Figure 3.5 in Chapter 3 presents an overview of my conclusions with regard to governance styles in Belize, Jamaica, and Nicaragua. These are summarized again below. I have examined the lobster fisheries governance styles in the three countries by considering the development orientation of national states, the dominant domestic groups, and the orientation of the state towards the fishing sector. In addition, the state institutions, laws, and policies in place in each country and the stakeholder representation are discussed.

Before considering national differences in governance style, I investigated the international governance of lobster fisheries in the region. Lobster is a transboundary resource which faces severe challenges regarding overexploitation throughout the region. This calls for international cooperation, and several Regional Fisheries Organizations (RFOs) have become involved in lobster fisheries governance. However, none of these RFOs wield decision-making power. Therefore, in this research, national governance arrangements are considered to be most influential when considering differences in lobster fisheries governance.

Belize, Jamaica, and Nicaragua face a similar set of challenges with regard to lobster fisheries: an open-access situation, high levels of IUU fishing, and declining resources. To counter these problems all three governments have implemented a similar set of regulations: a closed season of at least three months, a minimum size for lobster to be harvested, and a prohibition on landing berried females and molting lobster. In Belize and Jamaica, Marine Protected Areas (MPAs) have been instituted as well to enhance sustainability of marine resources. Despite these similarities, the three country cases show important differences in lobster fisheries governance style.

There is no doubt that the Belizean lobster fishery is the most harmonious of the three, and closest to the ideal type of co-governance. In Belize, the central involvement of fishing cooperatives since the 1960s goes undisputed. The state has been pro-developmental and
supportive of the initiative by small-scale fishers in the 1960s to organize into cooperatives. These cooperatives act as intermediaries in the relationship between fishers and government.

Most importantly, the cooperatives were given exclusive rights over lobster export (and all other seafood) in the early 1960s. Only two fishing cooperatives are allowed export seafood products, and as the collectives of fishers are owners, all benefits derived from the fishery flow back to the fishers. The high export earnings have strengthened the cooperatives economically, translating into political strength and the determination to protect the privilege of export monopoly that they enjoy.

Examining the governance style of Jamaica’s lobster fishery, I concluded that the governance style is a combination of—defective—co-governance and hierarchical state governance. Although the government attempted to create and support strong fishing cooperatives from the start of the lobster fishery in the 1950s, many of these cooperatives are weak and lack market or decision-making power. The government has exercised important influence on the structure of the fishing fleet, however, licensing only a few industrial boats and maintaining a special focus on the small-scale fleet. Historically, lobster fishers have been supported by the state through subsidies on fuel, mesh wire, engines, and boats. In recent years these measures have, however, been curtailed. Government regulations on closed season, weight and size limits are relatively unsuccessful, as Illegal, Unreported and Unregulated (IUU) fishing is high and data collection poor. The lobster fishery is currently regarded to be overexploited (FAO 2007).

The interests of small-scale fishers are poorly represented in decision making in Jamaica. The government is the most influential factor in the policy process and the role of other actors is limited. A Fishery Advisory Board (FAB) has recently been established in order to aid decision making by the government. This FAB fails to involve all stakeholders and fishing cooperatives are not formally represented (although leaders of cooperatives are consulted informally by the government). Market organizations such as processing plants are also not represented in the FAB and have no official channel for influencing decision making. In recent years, NGOs have become more involved in fisheries governance and relations between state and NGOs have been formalized for management and enforcement of MPAs. Current lobster fisheries governance is thus one of hierarchical state governance although attempts have been made in recent years to move towards more inclusive co-governance.

The state governance style in Nicaragua is hierarchical; this does not, however, result in a very strong and forceful state. In fact, in many ways the state has a limited steering capacity in the lobster fishery, and market parties have filled this gap. Nicaragua is by far the poorest country of the three. Although the lobster fishery in Nicaragua has developed rapidly since the 1950s, it was negatively affected by the political turmoil that took place in the country. After 1990 the fishery once again gained prominence and export to the United States rapidly took off again. Large processing plants and industrial fleets owners have been very influential since the initiation of the lobster fishery in Nicaragua and the state has experienced difficulties withstanding pressure from these powerful interest groups. A small group of market actors is therefore able to influence decision making, leaving very little room for other stakeholders, such as fishing cooperatives and NGOs.

The Nicaraguan lobster fishery is severely overexploited, with extremely high levels of IUU fishing and illegal trade. International market parties and NGOs are currently
initiating cooperation with the Nicaraguan state and lobster industry to improve the sustainability of the resource, but to date these initiatives are still limited.

In sum, the three countries have experienced varied historical development trajectories that have left them with three distinct lobster fisheries governance styles. I have categorized the three governance styles as co-governance, a mixture between co-governance and hierarchical governance, and hierarchical governance. A self-governing governance style was not found in the three fisheries except at a very local level in Belize.

Although co-governance and hierarchical governance therefore characterize all three case study countries, there are many nuances. In Belize, several NGOs have played a clear role both in management and enforcement of MPAs for at least a decade. In Jamaica, only in recent years has a single NGO been supporting the government in the establishment and enforcement of an MPA. This thesis has clearly shown that the involvement of civil society actors such as fishing cooperatives clearly differs between the countries. In Belize, their involvement is highly formalized, with exclusive marketing powers and the ability to influence decision making, while in Jamaica leaders of fishing cooperatives (which only represent a very small portion of total number of fishers) are consulted but relationships are not formalized. The nuances are even more explicit in hierarchical governance. Although Jamaica and Nicaragua’s governance styles are both hierarchical, they are also very diverse. When considering the two styles in detail, one can see many differences with regard to the role of the state, NGOs, and market parties. For one, market parties in Jamaica are more or less absent from the decision-making process, whereas in Nicaragua they are very much involved in fisheries governance. In Nicaragua, NGOs are virtually absent in the decision-making process, whereas in Jamaica they are becoming increasingly important. Although Nicaragua’s hierarchical governance style involves cooperation between the state and powerful market parties, we have also seen that the state has limited powers. The state in Nicaragua has had particular difficulty in establishing and maintaining its authority over market parties.

In Jamaica, the state has not been able to exercise strong influence over the fishery, yet there are no large market parties to fill this gap. This has left a governance vacuum with a lot of room for illegal processors and high levels of illegal fishing. These processors are, however, not highly influential in decision making. The state in Jamaica has acknowledged its limited ability to steer lobster fisheries governance and has therefore been seeking a closer alliance with market parties and civil society.

All in all, it is clear that the centers of gravity in the interaction between state, market parties, and civil society vary significantly. One can observe differences with regards to the state’s steering ability in lobster fisheries governance, varying from nearly absent to highly influential. State objectives for the lobster fisheries in the three countries are different too (see Béné et al. 2010). The Nicaraguan state has clearly focused on creating a “wealth-based fishery” (World Bank 2008), while the Belizean state has a “welfare-based” fishery approach aimed at stimulating development and decreasing poverty. The Jamaican state had a “welfare-based” approach at the onset of the fishery, but it has developed into an intermediate stage which is neither a “welfare-based fishery,” nor a “wealth-based fishery.”
8.2 Value chains

Subquestion 2: What are the differences and similarities in the structure and dynamics of the lobster chain from the local to the international level in the three research locations?

Market governance has been presented in Chapter 7 by means of Global Value Chain (GVC) analysis. The GVC approach is useful for understanding how international fish trade provides benefits for fishers in developing countries. The approach addresses questions on the distribution of benefits and can provide direction for policy makers on participation of producers in the value chain. It can also help to diminish the gap between producers in developing countries and those further up the chain. We have noted that value chains may be driven by the producers or the buyers (Gerrefi 1994), the traders (Gibbon 2001), or by other types of inter-firm coordination (see Henderson et al. 2002). These different modes are assumed to have a different impact on the distribution of benefits and the power relationships between those in the chain, and therefore play a role in what I have termed “market governance.” Market governance refers to governance within the value chain. (see Section 8.2 above).

In order to operationalize the concept of value chains, I have examined the structure and market governance of the lobster chains of the three countries from the local to the international levels. More specifically I have looked into the input-output structure, the chain actors, and quality standards and practices. Market governance of the chain was investigated by examining dependency relations, barriers to entry, and the impacts of the economic crisis. See Figure 7.3 in Chapter 7 for an overview of the results with regard to the three country studies.

My analysis has shown that the lobster chains in the three countries have a number of common features. They all produce lobsters for world markets (mainly for the United States, but also partly for the European market). As a result, Caribbean fishers, intermediaries, and processing plants are all inserted in global value chains that connect them “upwards” with foreign buyers. Regarding chain actors, one can conclude that in all three countries intermediaries, processing plants, and international importers play roles. Strict handling procedures and food safety standards are in place for all countries at the level of the processing plants. However, within any one country the fishers, intermediaries, and processing plants vary in professionalism, magnitude of the enterprises, levels of investment, as well as interrelationships.

In Belize, the principal chain actors are fishers and fishing cooperatives. Fishing cooperatives are the only agents able to export seafood, and fishers are formally not allowed to sell through intermediaries. Although intermediaries are officially illegal in Belize, sale of lobsters through intermediaries does occur. In Jamaica, the chain is characterized by a multitude of actors between fishers and the end consumer. The latter can be located in another country (served via intermediaries, processing plants, and international importers), or in the local tourist industry. Lobster fishers in this country frequently make use of intermediaries, as they are often based very far from the market and require help in obtaining fuel, credit, food, and even drinking water. In the Nicaraguan lobster fishery, the fishers generally make use of intermediaries who transfer the product to processing plants. These intermediaries differ in entry-level barriers, and scale of operation. Although one could argue that most fishers are
exploited by intermediaries, this relation is not necessarily one-sided. Fishers also benefit from the relationship in terms of credit for procuring fuel, food, and gear.

In Belize, there are only two processing plants, which are run by fishing cooperatives. In Jamaica, there are many smaller processing plants, which are frequently illegal. As the quality of the lobster in this country is inferior, the barrier to entry into processing is lower than in Nicaragua. This is also the case because they are smaller-scale and thus requires less capital and technological know-how, although they do export directly to the United States. In Nicaragua, the entry barrier for processing plants is very high due to the high level of capital and technological investment required.

Jamaica is the only country of the three where there is also a large tourist market for lobster at the national level; in Belize and Nicaragua the bulk is sold to the international lobster market. The frozen lobster tails from all three countries are exported in a similar fashion. Processing plants exporting to the United States all have to meet similar food safety standards which require strict handling and procedures. As quality is not easily discernible, trust plays an important role in exporters’ relationships with lobster importers. These relationships are reinforced by credit advances.

Although all processing plants require high investments as a result of the mandatory compliance with HACCP (Hazard Analysis and Critical Control Points) guidelines, there are significant quality differences between the three countries. These result from variations in the handling of the product before processing. Quality is highest in Nicaragua, followed by Belize, with Jamaica coming last. Illegal harvesting of lobster is high in all three countries, but particularly so in Jamaica and Nicaragua. The legal and illegal lobster trade are intertwined throughout the region, while various actors—national and international—are involved.

Prior to the financial crisis of 2008, the lobster chains in the region were largely producer-driven, with the local processing plants playing a dominant role. Yet at the height of the crisis, as well as during its aftermath, the chain appears to have reversed into a trader-driven chain in which importers have gained importance. The economic crisis that has taken place since 2008 has induced significant changes in lobster chains, particularly in the relationship between the processing plants and importers in all countries. Processing plants with feeble ties to importers have a harder time surviving than those with strong and stable ties. In Nicaragua, the processing plants appear to be hit the hardest, as three out twelve plants have gone out of business, whereas in both Belize and Jamaica processing plants are all still in operation. In Belize, this might be due to the fact that lobster fishers and processors also target fish and conch. These two products have been less hard-hit by the crisis and therefore enable the two processing plants to survive. In Jamaica, the processing plants are still in operation, but their operations have declined as a result of decreasing demand. The government has also issued fewer industrial licenses due to the economic crisis.

Most significantly, this research has shown that the dichotomy as described by Gereffi on buyer and producer-driven chains (1994), and later by Gibbon (2001) on trader-driven chains, is less useful in times of dynamic global change. It has also demonstrated that chains of an identical product to a similar end market can possess a remarkable diversity in actors and market governance modes. The GVC approach has rightly been criticized (Laven 2010) for neglecting heterogeneity of small-scale producers in the chain. My empirical data has
shown the large variety of fishing métiers present in the lobster chain, within countries, as well as between countries. My research suggest that, in order to improve the well-being of fishers participating in lobster value chains, more attention indeed has to be given to the variations that occur between the fishing métiers.

In spite of this criticism, the research has shown the GVC approach to be a very valuable tool in linking the different fishing métiers, intermediaries, processing plants, and final market actors in the United States and Europe. It has aided in understanding the structure and market governance of the chain. In addition, we have noted that differences in geographical and ecological circumstances in the three countries to a certain extent explain the variety in structure and market governance. Whether fishing grounds are located far offshore or in shallow inshore areas is a factor that helps shape value chains, as does the “richness” of lobster stocks.

I have concluded, however, that the GVC approach is only partially able to explain the differences that occur in chain structure. Examining the three lobster value chains with an identical product for a similar end market shows that differences in these chains need to be examined from a broader governance perspective, such as described in section 8.1 above. Dependency relationships between fishers and actors further up the chain, ownership of processing plants, either collectively by fishers or by large commercial parties, the presence of an industrial fleet, or the use of scuba gear, are all examples of chain differences that cannot be explained purely by value chain analysis.

For this research I have turned to a broader fisheries governance perspective to explain differences, as this provides room for a broader embedding of the fisheries sector within the interactions between state, market, and civil society. This context shapes the structure and market governance dimension of the chain. Although it is important to recognize that due to globalization such embedding is not immutable, it is also important to recognize that value chains will carry the societal embedding of the nation in which they operate. The GVC approach thus needs to take a broader governance perspective in which value chains are embedded. The interactive governance approach as described by Kooiman et al. (2005) can gain through the insights of the value chain approach as well. In Fish for Life by Kooiman et al. (2005), the fish chain is considered outside of the scope of governance. In addition, fish chains are described statically, with little attention for the dynamics of the chain, both in structure and in relation to market governance. This research has clearly shown the structure and market governance of value chains to be highly diverse and dynamic. Market governance should thus gain more attention within the fisheries governance approach.

8.3 Well-being

| Subquestion 3: What are the differences and similarities in well-being of fishers in the three research locations? |

In this research I have followed a three-dimensional view on well-being, distinguishing material well-being, relational well-being, and subjective well-being (McGregor 2008). Lobster fishers within and between countries can score differently across these dimensions. Figure 4.5 in Chapter 4, Figure 5.1 in Chapter 5, and Figure 6.3 in Chapter 6 present an overview of results on well-being with regard to the three case study countries.
The empirical data points to a large diversity of lobster fishers throughout the region. This heterogeneity is present within the three countries, but more extreme between the three countries. This heterogeneity has to do with differences in: working conditions; safety; single-species/multiple-species fishery; economic alternatives; trade relations and participation in decision-making; and job satisfaction.

In Belize, there is an important divide between divers and trap fishers, with trap fishers clearly possessing higher levels of well-being. The working conditions of trap fishers are relatively good; they 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. Their working conditions are safe, as fishing grounds are all very shallow and close to shore. Although the capital investment is very high for the owners of boats and traps, crew members have no investment threshold. Trap fishers in this country are single-species fishers who only catch lobster, and as a consequence during the closed season they do not engage in fishing. They do have other economic alternatives during the closed season. Divers in Belize, on the other hand, leave for nine to ten-day fishing trips and are full-time fishers. They do not possess economic alternatives to fishing, but are multi-species fishers that also catch conch and finfish, and consequently continue fishing during the closed season for lobster. Divers work only as free-divers and they operate under safe working conditions. The shallow reefs and numerous keys and atolls also help fishers to work in a safe environment.

Both trap fishers and divers are generally satisfied with their jobs, as all scores fall above the midpoint. Fishers are generally positive towards the future of the fishery and most would advise a young person to enter the fishery. No industrial lobster fishing is allowed in Belize, making the fishery especially profitable for small-scale trappers and divers. Both categories of fishers sell their lobster in a cooperative system whereby fishers are actually owners of the cooperative and receive a second payment at the end of the fiscal year. As many fishers are members of the cooperatives, the remuneration can be high. In addition, fishers are able to receive extras through the cooperatives, a bonus for Christmas, and insurance in case of accidents or death. Fishers in this country usually work independently, yet from a marketing and political viewpoint they are well organized.

The Jamaican fishing sector, too, is largely made up of small-scale fishers. They are multi-species fishers working in both inshore and offshore areas. Fishers use one of the multiple types of gear present in the lobster fishery of Jamaica, involving trap fishers and divers (scuba, hookah, and free-diving). Some fishers operate close to shore and are day fishers, but most fishers will also fish in the offshore Pedro Bank and leave for five to six days at a time. The day fishers will sell their catch to different intermediaries. These fishers are not highly dependent on the intermediaries for credit and material.

The Pedro Bank fishers, on the other hand, are highly dependent on intermediaries. Intermediaries are crucial in the Jamaican lobster fishery. Fishers on the Pedro Key are not able to sell to anyone except for the traders that visit the area, and depend on them to bring them food supplies, drinking water, fuel, and ice. Yet intermediaries also depend on the fishers’ catch and need to procure as much fish and lobster as they can before their ice starts to melt. Fishers indicate they have long-term relationships with intermediaries, often lasting for many years. Fishers also have relationships with different intermediaries, with some for a longer period, and others for a much shorter period of time. Part of the lobster catch is sold to
the hospitality industry and part is sold to small processing plants that export lobster to the international market.

Fishers in Jamaica are multi-species fishers and are able to engage partly in economic activities. The remuneration is clearly higher in comparison to the minimum wage on the mainland, yet lower than the remuneration of lobster fishers in Belize, where all profits flow back to the fishers at the end of the fiscal year. Working conditions for the offshore fishers on the Pedro Keys are particularly bad. These fishers are generally absent for a large part of the year. The working conditions for fishers are low in comparison to the other two countries, as the occupation is dangerous due to the fishing grounds being so far from shore; they are also absent for a large part of the year. In addition, fishers on Pedro Bank have to live in very basic conditions. They often live separated from their family for years. Fishers live in very small, corrugated-iron dwellings, with no running water, electricity, or toilets. Fishers fishing at the Pedro Bank take high risks, as they hardly take any safety precautions and the fishing grounds are very distant.

However, fishers on the keys are able to make high profits from the fishery, and even though they may live in basic shed all year round, their wife and children might be living in a very nice, large concrete house on the mainland. Although historically the government in Jamaica has attempted to support fishing cooperatives, most of these initiatives have failed. Only six percent of the fishers are members of a fishing cooperative, and these cooperatives serve more as shops than as powerful economic groups that are able to influence the politics of fisheries governance. Yet representatives are asked by the government to give advice on the fishery. In general, however, it can be concluded fishers are poorly organized from a market perspective, with a poor bargaining position and little political strength.

The well-being among lobster fishers in Nicaragua varies significantly between the industrial fleet and small-scale fishers. It also varies between trap fishers and divers (both industrial and small-scale). Whereas some fishers are able to reap high benefits from the fishery in a region where few other economic alternatives exist, they also may face very unsafe working conditions. Small-scale trappers in Nicaragua are day fishers. Trap fishers have taken out big loans for boat and traps. Trap fishers are often highly indebted to acopios or processing plants.

Trap fishers working on industrial ships engage in extremely hard work. Their remuneration from the fishery appears high, but not when considering the number of hours worked. The main differences between trap fishers and divers is the difference in safety. Although fishing is always considered to be a dangerous activity, diving for lobster in Nicaragua is extremely dangerous. The divers, small-scale and industrial, often have diving accidents and suffer from decompression sickness. This leads to hundreds of accidents and approximately 30 deaths per year. In addition, many divers are left paralyzed. Yet the remuneration for divers is high, which explains why divers engage in this dangerous occupation. Divers are generally highly dependent in patron-client relationships even though officially they are independent workers.

Many fishers in Nicaragua depend strongly on intermediaries, and sometimes directly on processing plants. The fact that intermediaries and processing plants do not take responsibility for divers who suffer diving accidents is particularly distressing. The
independence of fishers is abused by intermediaries and processing plants in this regard, using it as an excuse not to take any responsibility.

There are few economic alternatives for fishers in the Nicaraguan region except for drug trafficking. This trade, as well as the high occurrence of illegal lobster fishing in Nicaragua, is characteristic for the fishery. All fishers are poorly organized.

The empirical data shows that objective well-being is quite diverse across the different lobster fisheries in the three countries. I have concluded that the well-being of Belizean fishers is higher than that of Jamaican and Nicaraguan fishers. They are independent, enjoy safe working conditions, and have great market and political power by means of the fishing cooperatives. The Jamaican fishers generally score higher in comparison to their Nicaraguan counterparts.

Subjective well-being was studied by means of an assessment of job satisfaction. Job satisfaction of lobster fishers in the region proved to be generally high, with average scores per category above 2.8 points. In most cases, this compares favorably with job satisfaction scores in other developing country fisheries (see Pollnac et al. 2012). The data (see Fig. 4.9 in Chapter 4, Fig 5.20 in Chapter 5, and Fig. 6.14 in Chapter 6) shows that the categories Basic Needs, Social Needs and Self-Actualization score high (especially in Nicaragua and Belize). In line with the analysis of Pollnac et al. (2012), I suggest that if one wishes to provide alternative occupations for these fishers, it will need to be attractive to them in these respects.

More difficult to explain are the scores on satisfaction with lobster fisheries management. Most confusing is the fact that the co-governance style that prevails in Belize, which has created obvious benefits for lobster fishers, is apparently not well appreciated. In fact, the lobster fishers in Jamaica and Nicaragua, who have been less involved in the governance process, appear to be more satisfied with management as it occurs there. Rather than taking these results at face value, I suggest that they follow from a research method that is insufficiently precise and requires additional refinement. Other aspects of well-being—such as factual remuneration, trade relations, safety, and participation in decision making—need to be examined as well. These insights can help place fishers’ job satisfaction scores in a broader perspective and provide insight into the causes of very low scores. When aiming to improve these elements, the information on the other aspects of well-being can guide policy decisions. The job satisfaction methodology can therefore be concluded to have given a partial—and perhaps imperfect—impression of the subjective well-being of lobster fishers in the three countries. It was supplemented by an ethnographic research style that yielded valuable indications of subjective well-being.

The well-being approach employed in this research has generated a holistic view of the condition of lobster fishers as an occupational group in the Caribbean region. Heterogeneity emerged as a key feature—thus the well-being of lobster fishers differs significantly according to métier and geographical location.

This large heterogeneity found among fishers is in line with the conclusions reached by Coulthard et al. (2011: 8) that a well-being approach to fisheries provides a framework to identify the “winners” and “losers” from proposed policy interventions. Importantly, my

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151 As explained in Ch 1, the job satisfaction survey was recently expanded to include a few questions on management. In light of the experiences of this research, this category in particular requires reconsideration.
research demonstrates that a fisher can score well on one element, such as material well-being, yet score very low on another, such as relational well-being.

The heterogeneity amongst fishers indicates that there are likely to be different responses amongst fishers in relation to fisheries policies, and that this thus is of importance to take into consideration when considering new policy measures. A policy can have a positive impact on one aspect of well-being, but a negative impact on another. In addition, as we have seen from the large heterogeneity within the fishery, a policy measure can impact one fishing métier positively but impact another fishing métier negatively. By placing well-being at the forefront of governance actions, one can consider the impacts a policy measure will have for each fishing métier and/or each element of well-being of the different fishing métiers. However, this research has also shown that not all aspects of well-being can be influenced by policy. Certain aspects, such as whether a fishery is a single-species or multiple-species fishery, and the distance to fishing grounds, are highly important but difficult to influence through policy measures. In other words, policy makers in the field of lobster fisheries may encounter limitations to their governance efforts (Jentoft 2007).

8.4 Central question and leads for improvement

Central research question: What is the impact of varying governance arrangements and lobster chains on the well-being of lobster fishers in the Wider Caribbean?

This research has demonstrated the large heterogeneity among lobster fisheries in the region. Even though the spiny lobster is identical throughout the Wider Caribbean and the end market is similar, many differences exist among these fisheries. I established the diversity of well-being between fishers in three case study countries, coinciding with various fishing métiers and geographical locations (in Chapters 4, 5, and 6). I demonstrated that these métiers and locations are embedded in global value chains that channel lobster products mainly to international markets (Chapter 7). The structure of these value chains and the market governance patterns that prevail from the local to the international levels exert strong influence on the distribution and levels of well-being. Global value chain analysis does not provide a full explanation, however, and requires further contextualization. Variations in governance trajectories and styles at the national level constituted the final causal element (Chapter 3). Taken together, I argue that these governance trajectories and styles, and value chain characteristics, provide a strong explanation for the variations in well-being that were determined.

Policy recommendations

- This research has shown that in line with other work (see Pomeroy and Andrew 2011; Jentoft 2005) co-governance appears to be the most advantageous for fishers to achieve well-being. At the same time, this research has shown co-governance to be the result of long historical trajectories and thus not easily achievable. Co-governance, once implemented, is by no means an easy process. Powerful stakeholders might circumvent participatory processes when it serves their interest to do so. It might
involve redistribution of power and thus be unwanted by those currently in power (McConney 2003).

- The government in Nicaragua should focus on the small-scale fleet rather than on the industrial fleet. A small-scale fishery would provide livelihood and employment to more fishers than an industrial fleet. Small-scale fisheries can provide more livelihood and employment opportunities to more people at the harvesting level as well as higher up the chain, and deserve to be protected and supported.

- The use of scuba gear should be prohibited throughout the Wider Caribbean. The case of Nicaragua has shown divers suffer horrifying diving accidents on a large scale. All actors involved in the fishery, from local to international level actors, should take responsibility and prohibit these inhumane working circumstances.

- Illegal, Unreported and Unregulated (IUU) fishing is a grave problem throughout the region and needs to be controlled. Although IUU fishing might aid the remuneration of fishers in the short term, in the long term it decreases their well-being, and the well-being of others in the chain, as in the long run it decreases lobster yields and thus profits. In addition, it jeopardizes the sustainability of the ecosystem and thus has a much wider impact. This research has shown IUU fishing is more intense in some countries than in others, supporting the argument that IUU fishing can be curtailed. Awareness programs are necessary amongst fishers and others in lower segments as well as higher segments of the chain. Processing plants and international importers need to take more responsibility in curtailing imports of undersized lobsters and berried females. Governments need to exert more pressure, and spend more time and money on decreasing IUU fishing.

- International cooperation is necessary to combat IUU fishing in the region as well as diminish the overexploitation of lobster stocks. Spiny lobster is a transboundary resource and thus requires international cooperation. Habitat destruction in one country can profoundly impact harvesting levels in another. Close cooperation is thus necessary to ensure sustainable harvests throughout the region.

- This research has shown the impacts of the economic crisis on the lobster chain. Yet processing plants in the region could potentially “upgrade” their positions by securing long-lasting relationships with international importers and ensuring high-quality products. This will benefit lobster fishers if the upgrading profits do indeed flow back to the fishers. As we have seen, however, this also depends on market governance of the lobster chain. Fishery cooperatives that hold exclusive market power whereby all profits flow back to the fishers will result in highest potential benefits for fishers.

- My research has shown that fisheries policies entail trade-offs between the well-being of different groups and the different dimensions of well-being. The well-being approach to fisheries helps governing bodies consider the impacts of policy interventions for the various fishing groups and the heterogeneity that exists. Understanding the (intended or unintended) consequences of policy interventions for the impoverished and vulnerable groups can thus guide future decision making that aims to improve their lives.