

# Social Impact On Human-Well-Being of Different Governance Arrangements of Lobster Fisheries in the Caribbean

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## ABSTRACT

Lobster fishing (*Panulirus argus*) is an important economic activity throughout the Caribbean, both as a source of income and employment for the local population as well as foreign exchange for national governments. Sustainable management of lobster fisheries in the Caribbean region is therefore very important for the attainment of national economic and social development goals, as well as for the human well being and livelihoods of individuals and families dependent on these fisheries. The governance arrangements associated with the Caribbean lobster fisheries are found with a varying degree of success; from highly successful in one country to a high degree of overexploitation and near collapse of the fishery in another. Although the economic

drivers for overexploitation – notably the high value of lobster on the international market – are identical, not all lobster fisheries appear to be equally affected. This PhD research investigates the differences and similarities in governance arrangements of the lobster fisheries in Belize, Cuba, Nicaragua and Jamaica and the impact thereof on the human well-being of the lobster fishers.

KEY WORDS: Lobster fisheries, governance, human-well being,

## Los Impactos Sociales de los Diferentes Tipos de Arreglos de Gobernancia de la Pesca de la Langosta en el Caribe

La pesca de langosta (*Panulirus argus*) es una actividad económica muy importante que se desempeña por todo el Caribe. Es una fuente de ingresos y empleo para la población local y una fuente de comercio para los gobiernos nacionales. La administración sostenible de la industria de la pesca de langostas en la región del caribe es, por eso, muy importante para el mejoramiento de la economía nacional y su desarrollo, como también para el bienestar social y los modos de vida de individuos y familias que dependen de esta industria. Los arreglos de gobernancia de la pesca de la langosta en el Caribe están encontrados con diferentes niveles de éxito; altamente exitoso en un país hasta grandemente sobreexplotado y cercano a un colapso en

otro. Aunque los factores económicos para la sobreexplotación—notablemente el aumento del valor de la langosta en el mercado internacional—son los mismos, no todas las pesqueras parecen ser afectadas igualmente. Esta investigación estudia las diferencias y similitudes en el ordenamiento de gobernabilidad en las pesqueras de langosta en Belice, Cuba, Nicaragua y Jamaica, y el impacto de ellos sobre el bienestar de los pescadores de langosta.

PALABRAS CLAVES: Pesca de langosta, gobernancia, human-well-being,

## INTRODUCTION

When one thinks of lobster, it is probably in a romantic setting with an exquisite, candlelit dinner. Or maybe some will associate lobster rather with their fear in facing the practical problems that arise when trying to eat this basically giant sea insect that dates from the Jurassic period (Wallace 2005). While for others it's the image of live lobster frantically trying to cling to the pot's sides when being boiled alive and the questioned morality of inflicting pain upon another creature.

Nevertheless, the image of the lobster in Europe and North America nowadays is that of a superb, mouth-watering delicacy. It has a rich history of use and is still considered to be an aphrodisiac. In Europe, lobster has been a cherished food among the nobility for centuries, even though it was too expensive for most common men to eat. In North America, however, it wasn't until the 19<sup>th</sup> century that lobster gained their status as a sought after, high priced delicacy. In the 17<sup>th</sup> and 18<sup>th</sup> centuries, the lobster was so common it was considered 'junk' food and so abundant that they were used as hooked bait or fertilizer

for farmers' fields (The Economist 2005). Here, the lobster was not considered to be a dish fit for the rich but considered food for the poor. It was so commonly used as food for servants and prisoners that Massachusetts passed a law forbidding its use more than twice a per week lobster dinner was considered cruel and unusual punishment.

This image changed in the 19<sup>th</sup> century and combined with better infrastructure allowing for the shipping of live lobster from small coast settlements to the mayor cities trade increased. The increased demand for lobsters also stimulated a spiny lobster (*Panulirus argus*) industry in the Caribbean region since the 1960s and 1970s. Local consumption of lobster in the Caribbean had never been high, but now international market demand caused fishers to specifically target lobster. They employed a variety of gears, and processing plants were established in order to process and distribute the lobster to the international market.

In the last decades increased global demand and a large local tourist industry has stimulated the lobster industry even further and nowadays around 50,000 lobster

fishers active in the region, with an additional 200,000 people working in positions related to the lobster fishery (FAO 2003). Considering that for every fisher and fish worker there are a number of dependents the importance of the fishery is even greater. Between 1992 and 2001, average annual lobster landings in the Caribbean region were reported to be 36,827 tonnes, with an estimated value of US\$500 million. It is the single species most important fishery in the Caribbean, and as a result, the fishery represents both as a source of income and employment for the local population as well as foreign exchange for national governments. However, the high global demand and consequent high unit prices have resulted in ever increased fishing effort and consequent increasing scarcity of the spiny lobster in the major part of the Caribbean. The spiny lobster is now considered to be either fully exploited-to-overexploited in the majority of the Caribbean countries (FAO In preparation).

The same spiny lobster (*Panulirus argus*) is caught all over the Caribbean and exported to the USA, Canada, and the European Union. However, whereas the exterior of the lobster and price of the lobster on the market ends up being identical the lobster chain from harvest to distribution is wide-ranging throughout the Caribbean. The image of the lobster as a posh mouth-watering delicacy, just a step or two down from caviar, is deficient in showing the level of increasing scarcity of the resource, difference in governance arrangements under which it has been fished or daily life conditions of lobster fishers in the Caribbean. The 50 US\$ dollar 'grilled in garlic-and-butter sauce' lobster tail on your plate does not reveal whether it has been caught by a Nicaraguan lobster diver who uses 14 SCUBA tanks a day working eight hours, six days a week, searching the sea floor for these creatures. He carries out his work only wearing a piece of swim-underwear, weight belt, mask, and tank. Due to lack of proper training and equipment such as depth meter, buoyancy vest, dive watch etc., he faces a near 100% chance of suffering from the bends in three years, causing paralysis and frequently death as well (Ehrardt 2006). Or it might have been caught by a Nicaraguan lobster trapper on an industrial boat working at sea in shifts of 45 days with only three days on land before returning back to sea. Here, the fisher works in an environment that closely resembles an assembly line with the difference that it is located 80 miles out of the coast with a rolling floor, often accompanied by harsh weather conditions and working days of 16 hours with few breaks in between for around \$0.40 per hour. During the large absence away from home, working alongside 11 crewmembers and the captain and sharing sleeping and eating quarters, the crew becomes the substitute for lack of family and friends.

On the other hand, it might have been caught by a

small-scale trapper in Belize who participates in other economic activities as well, such as tourism, and only checks his traps every three days during a day trip. Or maybe it has been caught by a Jamaican fisher, who spends years of his life on a very small atoll located nearly 100 km out of mainland catching lobster, conch, and finfish. This small atoll in the middle of nowhere is shared with 400 other fishers, eight coast guard personnel and 25 prostitutes, without electricity, running water or toilets. Every night, if the weather permits, he goes out to scavenge the sea for lobster and other marine life using a flashlight. He has overcome his fear of sharks, barracudas, and other large predator fish, which he frequently encounters as they hunt for the same product during the first years of his fishing career. He is connected to an air compressor on board the small-scale boat on the surface by a 50 meter tube permitting him to work all night. His income enables him to buy a modest house on the mainland, where he might only spend five weeks a year with wife and children.

It is exactly these gaps of information the author wishes to address. The central research question is: '*What is the impact of different governance arrangements of lobster fisheries in the Caribbean region for the well-being of lobster fishers?*' In lobster fisheries research the main focus has traditionally been on natural science data gathering while the social-economic data gathering has lacked behind, a fact recognized by FAO/WECAFC at its most recent Spiny Lobster management meeting in Merida, Mexico in 2006 (FAO In preparation). There is only limited local socio-economic data available and more social research needs to be undertaken to fill in the knowledge gaps that are critical for designing effective management responses.

This research aims to provide information that will address the effects of governance on human well being of fishers at a wider scope. This research will provide information by concentrating on the effects of different governance arrangements at the local level across a variety of nations. Even though governance has been the centre of debate in academia for the past decades there is no consensus on the definition of governance. It is used in a variety of ways in a variety of settings and there is no consensus on methods and techniques of data-gathering.

In this research the interactive governance approach as developed by Kooiman *et al.* (2005) will be used as a point of reference. The interactive governance approach relates to the whole of public as well as private interactions that are initiated to solve societal problems and create societal solutions, and therefore includes public as well as private actors. Interaction by academics, policymakers, and users is a necessary condition (Kooiman *et al.* 2005). The focus of governance is not only multi-actor (from public to semi-private to private) but also multi-scale ranging from the

The name "lobster" stems from the Old English *loppestre*, which is thought to be a shady form of the Latin word for locust combined with the old English *loppe*, which meant spider (Wallace, 2005).

international, national to the local level. Within this multi-scale analysis there are three foci of attention;

- i) The 'fish chain' (the lobster chain from ecosystem to capture to international market),
- ii) The institutional system, focusing on how the fishery is governed, and
- iii) The principles that guide the behavior of the actors involved.

The interactive governance approach is a new approach in fisheries governance that has been developed over the last years. Even though this approach has been gaining widespread attention, few practical studies have been carried out and many methodological questions still remain. This research will help fill in some of these gaps.

Human well-being has been extensively studied for decades, attracting numerous academic disciplines within the social sciences (McGillivray 2006). The concept of well-being proposes to link analysis of both macro and micro level (Gough *et al.* 2007). According to these authors, well-being is constituted of 1) human needs (income, education, food security, alternative livelihoods etc.); 2) some sense of autonomy regarding the decision you make in your life; 3) satisfaction quality; how satisfied you are in the level of achievement of your goals/ideas/wishes etc. Well-being provides a way to understand a person's life from a more holistic perspective than is commonly adapted in development thinking. Positive outcomes of human well-being measurement between countries are often attributed to specific policy interventions while poor outcomes are often linked with either absence of appropriate policies, or the presence of inappropriate ones – or both (McGillivray 2006). Achieved well-being measures are therefore seen as important tools, used in design and evaluation of policies, both national and international (McGillivray 2006).

This study attempts to bridge a gap by focussing on the effects of different governance arrangements present in the lobster fisheries on human well-being of fishers. The research project runs from July 2006 - April 2011. Fieldwork is carried out in the Bahamas, Belize, Cuba, Jamaica, and Nicaragua. They represent a variety of different governance arrangements. While limited in geographical scope, as the study investigates four countries in the Wider Caribbean region, replication of the research in other areas within the Wider Caribbean where the lobster fishery is of significant importance is anticipated. The information acquired will hopefully provide the necessary information needed in order to improve the well-being for those who need it most.

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