Fishing for Benefits

Tradeoffs of Implementing Fair Trade USA in Small-Scale Fisheries

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Seafood Certifications and Small-Scale Fisheries

Seafood Certiications

Global demand for sustainable seafood is increasing, driven by consumer awareness and seafood sustainability pledges by large retailers. Seafood certifications, market-based incentives that encourage sustainable fishing practices through price premiums, offer a guarantee of sustainability. Certifications can provide social, biological, and economic benefits to fishers, supply chain partners, and consumers, but are not without challenges. To obtain the dominant global seafood certification, the Marine Stewardship Council (MSC), fisheries must comply with rigorous, biologically-based standards through an often costly third-party audit process.

Challenges for Small-Scale Fisheries

Small-scale fisheries in developing countries often struggle to become certified and obtain sustained access to markets that demand sustainability due through extensive requirements, including data collection systems and effective governance. Because these fisheries play a crucial role in global fish trade, there is an increasing need to incorporate them into seafood certifications. To address the needs of small-scale fisheries, Fishery Improvement Projects (FIPs), multi-stakeholder efforts involving partners in the private sector, NGOs, government, and fishing communities, were developed. Although FIPs operate over a step-wise process that can be used to achieve the MSC standard, many often stagnate (Sampson et al. 2015).

Figure 1. Longline fishing gear used in the Guanacaste region to catch snapper.

Problem Statement

Fair Trade USA, a certification widely used to improve social and environmental sustainability for coffee, chocolate, and other products imported to the U.S. from developing countries, launched a Seafood Program in 2014. Unlike the MSC, the Fair Trade Capture Fisheries Standard focuses on social criteria, such as fair working conditions, and operates over a 6 year process of improvement. Given its relative newness, the impacts of FTUSA in fisheries are still relatively unknown. There is a need to investigate the predicted effects of the Fair Trade USA Capture Fisheries Standard on a small-scale, developing country fishery.

Objectives

1. Compare three seafood certification programs, the Marine Stewardship Council, Fishery Improvement Projects (FIP), and Fair Trade USA.
2. Assemble a systems map of the biological and economic components of the fishery supply chain.
3. Developed a bioeconomic model predicting fish biomass and profits under Fair Trade USA

Case Study: Costa Rica Snapper

San Francisco de Coyote and Bejuco

We focused on two Costa Rican small-scale fishing communities: San Francisco de Coyote and Bejuco, located at the southern end of the Nicoya Peninsula on the north Pacific coast of Costa Rica. The target species in the fishery is spotted rose snapper (Lutjanus guttatus), caught by bottom longline. Approximately 35 families depend on this fishery and are organized in two fishing-associations, which self-enforce size limits and gears.

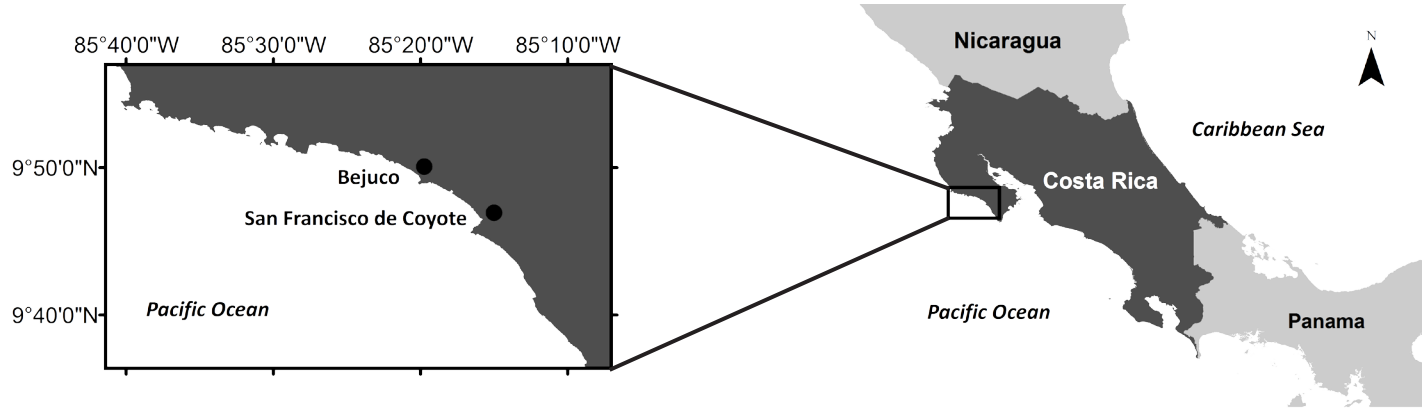

Figure 1: Map of Costa Rica, communities of San Francisco de Coyote and Bejuco shown in amplified section of map.

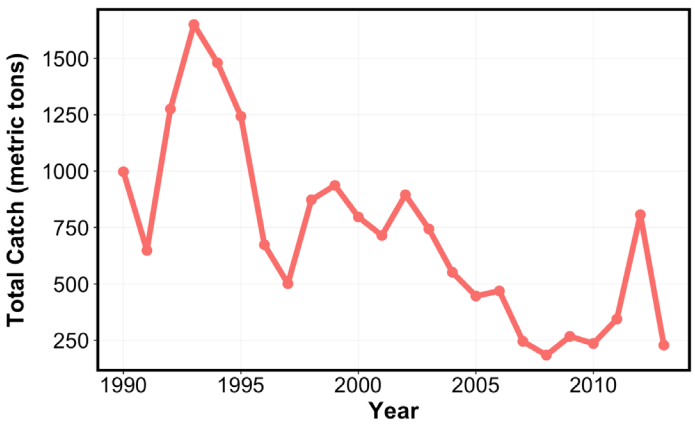

Figure 2: Annual snapper landings in the Guanacaste region from 1990 until 2013.

History with Certifications

In 2011, with the help of two local NGOs, PRETOMA and ARCAE, the communities underwent a MSC pre-assessment. The assessment identified areas of necessary improvement before entering the full assessment, including extensive data collection systems and collaboration with government fishery managers. In 2015, the fishers and NGOs decided to abandon the MSC certification, largely due to lack of requisite stock information. A FIP was considered but rejected. After deciding not to pursue MSC or a FIP, the fishing communities decided to explore the Fair Trade USA capture fisheries (FTUSA) certification.

Assessing Impacts of Fair Trade USA

1 Certification Comparison

Comparison Framework

The Marine Stewardship Council, Fishery Improvement Project, and Fair Trade USA programs were analyzed using a set of 30 performance indicators separated into three categories proposed by Micheli et al (2014): 1) Governance, 2)Socioeconomic and 3) Biological. These criteria represent a system-wide approach to fishery assessment best suited for small-scale developing country fisheries. We evaluated how each certification program standards addressed the indicators using a stoplight approach: red (not mentioned), yellow (unclearly mentioned), green (directly mentioned).

Applying the Framewor

The MSC and FIPs scored identically because the ultimate goal of many FIPs is a MSC certification. Fair Trade USA thoroughly addressed socioeconomic criteria that the MSC and FIPs lack.

Takeaway

Assuming that a successful seafood certification program for small-scale fisheries in developing countries must include socioeconomic and ecological criteria, Fair Trade USA is the most applicable when compared to MSC and FIPs.

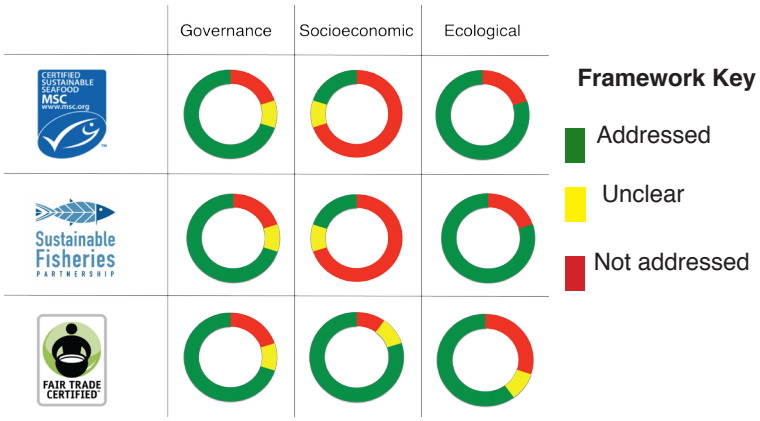

Figure 3. Model projections of snapper biomass for different percentages of the region under an effort reduction strategy (2014 - 2050). Effort reduction strategies encompassed reductions of current effort by 0 - 50%. Presented outcomes represent a snapper stock with nearly perfect mixing.

2 Systems Mapping

Snapper Supply Chain

We mapped the path of snapper from area of landing to location of sale through informal interviews with the different stakeholders along the supply chain. Once the system was laid out, and its high complexity understood, we interpreted the Fair Trade USA standards to demonstrate how the system would change if the certification were to be adopted. Unlike other certification schemes, under Fair Trade USA, the fish is sold at a Premium Price, which is a percentage of the price at-dock of the fish landed.

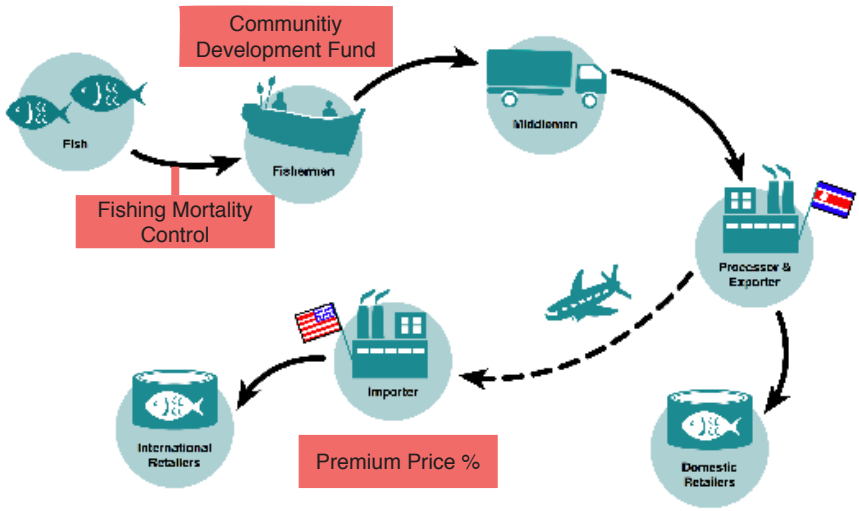

Figure 4. Supply chain system under a business as usual scenario.

The money from the Premium Price, accumulates in a community development fund, which is then used by the community for social and ecological projects.

Takeaway

Fair Trade USA changes the system in two main ways. First, the introduction of a Fair Trade Community Development Premium fund. Second, the majority of the certified fish gets exported.

3 Bio-Economic Model

Model design

We used a surplus production model to simulate the future of the Costa Rican snapper fishery under different scenarios of Fair Trade USA implementation. These scenarios explored different combinations of fishing effort, percentage of certified fishers in the region, mixing of the snapper stock, and Fair Trade USA premium percentage.

Predicted ecological benefits of Fair Trade

There was very little difference in terms of snapper abundance between the business as usual scenario and Fair Trade USA scenarios where 10% of the region and 50% of the region were certified, regardless of the level of effort reduction implemented.

Ecological vs. economic benefits

The economic benefits of Fair Trade are independent from the ecological, given that the Community Development Premium Fund depends on landings, there will always be economic benefits received by the community even if the stock is not increasing.

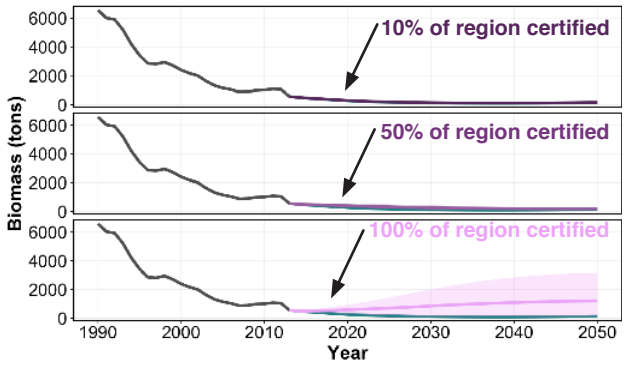

Figure 5. Model projections of snapper biomass for different percentages of the region under an effort reduction strategy (2014 - 2050). Effort reduction strategies encompassed reductions of current effort by 0 - 50%. Presented outcomes represent a snapper stock with nearly perfect mixing.

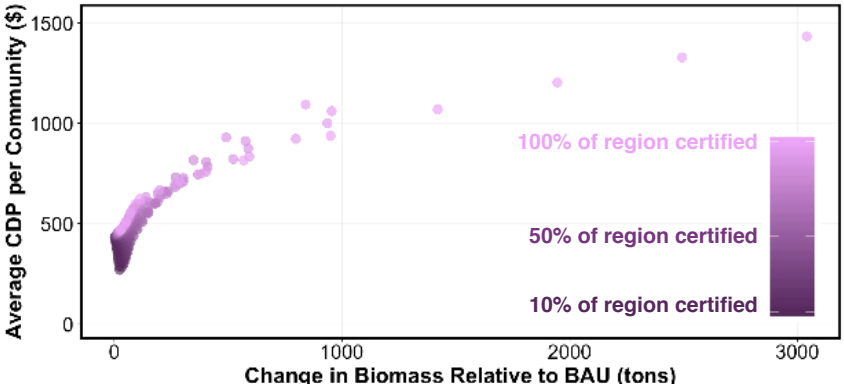

Figure 6. Community Development Premium ($) and biomass (tons) in 2050 relative to business as usual for different Fair Trade USA scenarios. Presented outcomes represent a snapper stock with nearly perfect mixing.

Takeaway

If snapper in the Guanacaste region are a single, well-mixed population, Fair Trade USA certification of Coyote and Bejuco is unlikely to have a noticeable ecological impact.

If there is limited mixing between snapper in the northern and southern parts of the Guanacase region, the ecological effect of Fair Trade USA could be more pronounced.

Conclusions and Further Research

Fair Trade USA is the first seafood certification program targeted at developing country fisheries, but tradeoffs exist between biological and social benefits. In our case study, fisheries may generate community benefits, but experience challenges in stock sustainability. We identified three main areas for further research. First, Fair Trade USA lacks clear incentives for middlemen to remain involved. Second, seafood certifications face a significant challenge when working with small-scale fishers who are fishing a small portion of a large stock. Finally, Fair Trade USA guarantees a US-based buyer, leading to a potential food deficit in local markets. It is unknown how will this shortage be fulfilled, opening possibilities for increased fishing pressure on other species, imports, or shifts to substitute products.

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