Adaptation of Artisanal Fishers in the Context of Climate Change: The case of Costa Rica

Abstract

Climate change represents a major threat to artisanal fisheries worldwide (FAO, 2018a; Clemente Beyer, et al., 2019). The threat is heightened in Costa Rica, a country located in Central America, one of the most vulnerable regions in terms of climate (OAS, 2001; ECLAC, 2018). Historically, artisanal fishing is developed on both coasts of Costa Rica, in the provinces of Guanacaste, Puntarenas, and Limón. While fisheries hold a minor participation in the national economic structure as compared, for example, to agriculture or tourism, it is an essential source of income for coastal areas and contributes indirectly to tourism (Chévez & Campos, 2014). Costa Rica's artisanal fishing sector has been consistently neglected throughout history, motivated by government policies that tend to focus on the populous Central Valley and a national socioeconomic development model that promotes industrial fishing, tourism, and services (and, more recently, increasing pressure from the aquaculture sector) (FAO, 2016; UCR, 2018). Moreover, similar to other places in Latin America and even around the globe, artisanal fisheries in the country struggle with high levels of informality. In this context, this thesis aims to study the effects of climate change on Costa Rican artisanal fishers with a view to understanding how and to what extent they are able to adapt by examining their vulnerabilities, resilience, and adaptation.

The main objective of this research is to analyze climate change adaptation among Costa Rican artisanal fishers to understand how they perceive and implement the concept in their daily lives while already subject to the effects of climate change. Therefore, the main research question is: What does adaptation to climate change mean for Costa Rican artisanal fishers and their communities? To answer the main research question and to better understand the climate change adaptation experiences of artisanal fishers, this dissertation uses an analytical framework based on the concepts of vulnerability, resilience, and adaptation, as well as a qualitative methodology. Given that Costa Rica has two coasts with numerous fishing communities, a heterogeneous geography, and differing weather conditions, biodiversity, and socioeconomic development, the research focused on four communities (two on each coast) for methodological reasons regarding time and resources. Along the Caribbean coast, the communities of Cahuita and Barra del Colorado were selected as case studies; while on the Pacific coast, the study focused on Dominicalito and Cabuya.

At the outset of my study, I expected to find that climate change was a primary concern for artisanal fishers and that they were able to adapt to it or, at the very least, aimed or strived to do so. This expectation was partly based on the mainstream climate adaptation literature (Galappaththi et al., 2022), which suggests that fishers implement different adaptation strategies in the short, medium, and long terms. The strategies are meant to be implemented individually or collectively. This literature usually portrays climate change as an external, natural, and inevitable phenomenon (Mullenite, 2017) primarily based on present and future situations, which limits the understanding of the main causes of human vulnerability, capabilities, and adaptation. In these mainstream approaches, adaptation is mainly considered a standardized and monolithic idea (Lövbrand et al., 2015; Goldman, et al., 2018), in which each group's context (historical, social, political, cultural, environmental, etc.) is excluded. As I progressed in my research, I discovered that climate change and adaptation are not top priorities for artisanal fishers, but rather they have other immediate concerns to resolve on a daily basis (Coulthard, 2012). I also found that depending on the context, climate change can be either a direct challenge or a multiplier of structural issues such as poverty, social inequality, and political marginalization that have historically affected the sector.

From a broader perspective, this research aims to analyze the social and political dimensions of climate change and its power dynamics. Climate change is a global driver that holds an important place on the international political, geopolitical, and scientific agenda, but it cannot be studied as an isolated and

technical issue disconnected from the realities of local communities. Further studies must analyze how climate change interacts with political, economic, and even cultural aspects, with the understanding that despite mainstream political discourses that maintain climate change is an urgent topic, it is not always about climate change, and it is not always the main priority for every community.