



Weaving governance narratives: discourses of climate change, cooperatives, and small-scale fisheries in Mexico

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Abstract

In the coming decades, accelerating processes of climate change are expected to impact the world's fisheries. These changes will likely exacerbate ongoing challenges in the governance of small-scale fisheries, which play a significant role in supporting livelihoods and food security throughout the world. Among fishers in Mexico, the perceived impacts of climate change on coastal fisheries are increasingly salient. The purpose of this paper is to examine how the realities of climate change and other socio-environmental phenomena are discursively co-produced by fishers and government actors in a distinct type of political arena: the general assemblies of federated fishing cooperatives. Fishing cooperatives in Mexico organize into regional-level federations, which in turn form national-level confederations. Confederations are therefore multi-level, nested organizations for collective action and political representation. Here, we examine the interactions between fishers and federal government officials in the 2016 general assembly of one confederation, which represents 25 federations with 338 cooperatives. The general assembly of the confederation serves as a political space for open democratic participation among members and, in this case, discussions between fishers and government representatives. The discourses employed by fishers and government actors reveal tensions about the role of the state, the purpose of scientific knowledge in resource management, and the nature of the cooperative small-scale fishing sector. Insights from this case are used to advance discussions about the value of examining discursive practices to gain insights about fisheries policy, through a critical discussion of the Institutional Analysis and Development (IAD) framework. We theorize discursive practices as part of politicized performances that coalitions of actors use to express policy preferences and weave together governance narratives, which are useful for understanding positions and broader debates at the national level.

Keywords Small-scale fisheries · Climate change · Discourse · Policy processes · Narrative analysis

Introduction

In the coming decades, accelerating processes of climate change will likely exacerbate ongoing problems in the governance of the world's marine fisheries. Predicted declines in productivity and species distribution shifts threaten significant impacts on local and national economies, food security, and

ecological communities (Perry et al. 2005; Allison et al. 2009; Sumaila et al. 2011; Golden et al. 2016). Understanding impacts on small-scale fisheries is especially important because they generate the majority of global landings, fisheries jobs, and seafood for human consumption (FAO and WorldFish 2008; see also Bennett et al. 2018). Small-scale fisheries tend to be characterized by relatively low capital investment, high labor intensity, and small boats targeting diverse species with multiple gear types (Salas et al. 2007). However, most definitions of small-scale fisheries emphasize technological dimensions and labor performed at sea (Chuenpagdee et al. 2006), in effect obscuring other important social-ecological relations in which fisheries are embedded (Basurto et al. 2017).

In Mexico, the small-scale fishing sector is a significant producer, accounting for approximately 97% of all vessels and involving hundreds of thousands of fishers (Salas et al. 2011). Among small-scale fishers in Mexico, perceived impacts of climate change are becoming increasingly salient yet

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difficult to separate causally from other issues (e.g., widespread illegal fishing, declines in productivity). Moreover, problems in the governance of Mexican fisheries are embedded in particular histories of centralized management and state-led economic reform. In the 1970s, the Mexican government initiated a political-economic project to develop the nation's fisheries, which remained relatively unexploited until then, to promote economic growth (Hernandez and Kempton 2003). In the 1990s, the state reduced its own capacities through neoliberal reforms (e.g., reducing subsidies, promoting private investment), while simultaneously retaining centralized control of fisheries permits and access rights (Young 2001; Hernandez and Kempton 2003). Two federal agencies housed in the Secretariat of Agriculture, Livestock, Fisheries and Food (SAGARPA) serve this latter purpose: INAPESCA (the National Institute of Fisheries and Aquaculture) conducts scientific research to inform management, while CONAPESCA (the National Commission of Fisheries and Aquaculture) is the regulatory body that assigns fishing permits and administers subsidy programs, among other tasks.

Historically, cooperatives have been a major organizational model for small-scale fishers in Mexico, where they are legally defined as social organizations formed by individuals with common interests “based on principles of solidarity, individual efforts, and mutual assistance for the purpose of satisfying individual and collective needs, through the realization of economic activities of production, distribution, and consumption of goods and services.”¹ The history of cooperativism in Mexican fisheries is similarly embedded in a history of state-led development and intervention. Starting in the 1920s, post-revolutionary governments incentivized the formation of cooperatives by granting them fishing permits and exclusive access rights over some species (formalized in the Law of Fisheries of 1947), and later in the 1970s, low-interest loans distributed by a national fisheries bank (BANPESCA) (Ibarra et al. 2000; Young 2001; McCay et al. 2014). State initiatives have also promoted cooperatives' productivity through subsidies and infrastructure investments (Young 2001). However, neoliberal policies in Mexico have drastically shifted these incentives, opening up the fishing sector to private investment as cooperatives lost exclusive access rights after the Law of Fisheries of 1992 (McCay et al. 2014; Bennett 2017). In addition, the bankruptcy of BANPESCA in the 1980s negatively impacted cooperatives' access to capital, which has made them vulnerable to private competitors (Vazquez-Leon 2012; Bennett 2017).

Cooperativism developed into an important form of collective action in Mexico partly because cooperative firms overcome high transaction costs associated with commercialization of

landings, and they facilitate collective access to fishing rights and government benefits (Basurto et al. 2013; Bennett 2017). Cooperatives are also important for the provision of other services (e.g., freshwater, road infrastructure) in coastal communities (Basurto et al. 2013; McCay et al. 2014). Additionally, fishers have harnessed the cooperative model to form nested, multi-level organizations for political representation and collective action. That is, cooperatives have unified into regional federations, which in turn form national-level confederations. Organizing into confederations has allowed small-scale fishers to participate in broader political forums, such as national policy councils (Espinosa-Romero et al. 2014). The first national confederation, CONACOOOP (National Confederation of Fishing Cooperatives), was created in 1973 and currently represents approximately 20% of all fishing cooperatives in Mexico (COBI 2015). In 2014, several federations departed from this group and formed a new confederation, CONMECOOP (Mexican Confederation of Fishing and Aquaculture Cooperatives), which currently represents 25 federations, 338 cooperatives and approximately 10,578 individual members.

The purpose of this paper is to examine the exchanges taking place in the general assembly of CONMECOOP in 2016, where fishers interacted extensively with federal government representatives. We examine the assembly as a forum for political exchange where actors enact discursive practices that reflect particular policy preferences and illustrate broader struggles in the management of fisheries in Mexico. We use discourse analysis to examine dialogues between fishers and government actors, focusing especially on discussions of climate change and its impacts on small-scale fisheries, as well as other governance issues. Our work demonstrates how social actors position themselves in relation to other actors through discursive practices, how they make argumentative claims through narratives and rhetorical devices, and how certain narratives and discursive elements are deployed to reify or establish common understandings of fisheries problems. From a theoretical and methodological standpoint, this paper aims to contribute to various policy studies traditions by demonstrating the utility of ethnographically grounded discourse analysis for understanding policy processes.

Methods

General assemblies are the principal decision-making mechanism in Mexican cooperatives, and thereby also federations and confederations. As with most other cooperative organizations in Mexico, the assemblies of CONMECOOP are held annually and serve different functions, such as reviewing the confederation's past activities and democratically determining future activities or electing leadership. Here, we focus especially on the 2016 assembly of CONMECOOP, which involved open forums for questions and discussion between

¹ Translated from Mexico's Law of Cooperative Societies (<http://www.diputados.gob.mx/LeyesBiblio/pdf/143.pdf>)

fishers and representatives of the federal government. We audio-recorded and transcribed the proceedings of the assembly, which took place in Mexico City during March of 2016. We also attended and recorded the annual assemblies in 2017 and 2018, which took place in Mexico City in March and June respectively. Permission to record was obtained by asking confederation leaders and also obtained orally at the assemblies. We also conducted ethnographic observation throughout the assemblies and informal interviews with confederation members, three in 2017 and four in 2018. Information from 2017 and 2018 is supplemental to our analysis and provides additional context for understanding the range of issues associated with the governance of fisheries in Mexico.

We analyzed the 2016 transcripts inductively according to principles of grounded theory as an approach to qualitative data analysis (Charmaz 2006; 2008), first performing an open coding of the transcripts and narrowing over successive coding efforts to identify emergent themes. Some of the major themes identified include climate change, conflict between small-scale and industrial fisheries, subsidies, monitoring and enforcement, and illegal fishing. Qualitative data were coded using NVivo (QSR International), a qualitative data analysis software. In addition, insights from narrative policy analysis (Roe 1991; Kaplan 1986) and discursive positioning theories (Davies and Harre 1990) were used to examine the rhetorical elements of discourses found in the assembly. These analytical approaches, as well as the data presented here, are not intended to provide a systematic survey of attitudes and policy preferences related to the small-scale fishing sector in Mexico. This work is inherently limited by the scope and content of issues discussed at the assemblies. Findings are contextualized ethnographically through the authors' broader research experiences and knowledge of fisheries in Mexico, as well as consideration of broader literature. The following section describes the theoretical perspective of the paper, and subsequent sections present major findings and conclusions.

Confronting ontological-epistemological divides: discourse and institutional analysis

Fisheries are commonly conceptualized as common-pool resources, where one user's appropriation subtracts from the total resource pool, and from which it is costly to exclude unauthorized users (Ostrom 1990). The field of common-pool resources or commons scholarship emerged partly in response to influential thinking rooted in bioeconomics and neo-Malthusianism, which drew a linear relationship between population growth and resource depletion. Hardin's (1968) "tragedy of the commons" emerges as the most emblematic metaphor for this line of thinking, which poses centralized control or privatization as logical solutions to resource degradation (Ostrom 1990). Several commons scholars have

critiqued the assumptions of this tragedy narrative (e.g., Berkes 1985; Feeny et al. 1990; Dietz et al. 2002) and demonstrated how resource users can communicate to develop institutions (i.e., rules and norms), therefore avoiding tragedy and giving rise to enduring arrangements for governing resources (Ostrom 1990). This field has made significant contributions to the study of common property, social-ecological systems, and factors that influence governance and institutional change (e.g., Agrawal 2001; Berkes et al. 2003; Ostrom 2005; Dietz et al. 2002).

One key contribution of commons scholarship is the Institutional Analysis and Development (IAD) framework, a conceptual tool intended to foster a common "metatheoretical language" for analyzing diverse institutional situations and integrating different theories and models (Ostrom 2011: 8). The IAD framework situates social actors within action situations, which are shaped by various contextual elements (e.g., the biophysical world, existing institutions), in order to analyze interactions and outcomes. The framework is useful because it allows us to envision multiple spaces for decision-making by actors in action situations and to theorize the actions they take in different ways. Some scholars have theorized policy change as driven by coalitions of actors making use of knowledge and learning to further their interests, or as driven by the influence of interest groups on bureaucratic processes (Sabatier 1988; Moe 1995). As Moe (1995) demonstrates for the USA, public bureaucracies are not designed for efficiency, effectiveness, or because they lead to the most equitable outcomes. Rather, they are shaped by the interests and incentives of multiple actors. One key mechanism through which actors assert their interests and attempt to shape policy processes is their use of discourse, which constitutes particular policy narratives (Kaplan 1986; Roe 1991; Hajer 1995; Dryzek 2005).

Institutionalists and other scholars of the commons have acknowledged the role of language and ideas in constituting social realities, identities, and social orderings (Aligica and Boettke 2009). Yet paradoxically, despite explicit efforts to engage with language and linguistic elements (e.g., Crawford and Ostrom 1995; Basurto et al. 2010), there has been relative inattention to discursive practices as political strategies, which mediate the material force of ideas (i.e., their effects on the world). Indeed, the work of commons scholars has been critiqued for inattention to historical and political dimensions (Clever 2000; Clement 2010). In addition, some work on the commons has remained somewhat disengaged from the political influence of the core ideas it represents—for instance, how work on the global commons can reinforce Western notions of development and modernization (Goldman 1997), or how some contributions of the field have coalesced into a prescriptive management discourse premised on decentralization as a normative end (Bresnihan 2016).

Partly at the root of these critiques are ontological and epistemological differences. Institutional approaches are useful for understanding the incentives actors face in policy settings, or mechanisms available for deliberation. However, because these analyses often depart from an individualistic epistemology (methodological individualism, Agilica and Boettke 2009), premised to varying degrees on economic rationality (i.e., self-interested, utility maximizing actors), they can obscure the relational and performative dimensions of policy making and institutional change. By relational, we mean that all seemingly concrete or structural phenomena are constituted by relations rather than discrete entities with determinate properties (Barad 2007). Relational ontologies differ drastically from more anthropocentric perspectives premised on dualistic understandings of the “social” and “natural,” or which conceive of such categories as separable, inherent, or essential (Castree 2003). Performativity in this sense is a concept rooted in the work of feminist theorist Judith Butler, emphasizing the practices through which particular realities are enacted, embodied, and reproduced (Barad 2007; Gibson-Graham 2008).

Accordingly, here, we depart from a more relational perspective and argue that fisheries and policies to govern them are (1) co-produced by the intertwined agencies of human and more-than-human natures (Barad 2007; Bresnihan 2016; Moore 2015) and (2) constituted through discursive practices and their relations to the material world (Hajer 1995, Barad 2007). By more-than-human natures, we mean that non-human components of social-ecological systems directly shape the possibilities for human action, and that societal processes (e.g., resource extraction, capital accumulation) do not act *on* nature, but *through* nature (Moore 2015). So-called biophysical elements are therefore not “exogenous variables,” as suggested even in more politicized analyses using the IAD framework (e.g., Clement 2010), but integral material-semiotic actors shaping action situations. Moreover, we understand discourse as an “ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities” (Hajer 1995: 44). This definition, which reflects the importance of practices, is useful for examining the performative nature of policy processes. In addition, attending to discursive practices offers a possibility to explore dynamic processes through which actors acquire positions in action situations, enlivening more static yet helpful understandings of positionality used in institutional analysis (e.g., positions of resource users based on rights; Ostrom 2005).

Several kinds of environmental discourses have been studied using discourse analysis, including acid rain, soil degradation, and deforestation (Hajer 1995; Forsyth 2001; Hajer and Versteeg 2005; Dryzek 2005). In this analysis, we draw from social-interactive discourse analysis, rooted in the work of theorists like Davis and Harré (1990) and Billig (1987), but

refined by Hajer (1995) for the study of environmental discourses. A major emphasis of the social-interactive approach is the argumentative nature of political struggles, or how actors produce and shape discourse through argumentation. According to this perspective, which draws on Michel Foucault’s theories of power and subjectivity (e.g., Foucault 1980), human interaction and reality are constituted through the exchange of arguments and people acquire certain subject-positions through the discursive practices and techniques available to them, which they employ tactically. In this paper, we examine how actors position themselves in relation to specific socio-environmental problems and to other relevant actors as they make arguments about fisheries in Mexico. We focus on the ways actors employ discourse to represent problems, possible solutions, the roles of other actors, and rationalities for management, weaving them into particular governance narratives.

Given the role of argumentation in environmental politics, Hajer (1995) draws attention to rhetorical or persuasive devices, particularly the Aristotelian rhetorical elements of *Ethos*, *Pathos*, and *Logos*. *Ethos* refers to the character of the speaker, whose authority, reputation, or credibility are invoked in making an argument. *Pathos* refers to emotional appeals, while *Logos* is related to the logical or rational basis of an argument. Additionally, the Sophist rhetorical concept *Kairos* refers to persuasion through the timeliness or appropriateness of an argument or speaker (Hess 2011). *Kairos* is a useful concept for examining emerging discourses about climate change and the ongoing preoccupation with environmental crises (Nicotra and Parrish 2010). Attending to rhetorical devices, as well as more pragmatic aspects of discourse (e.g., context, presuppositions, implicatures), can be useful for examining how expertise, authority, and appropriateness are produced in the political articulation of environmental discourses (Hess 2011; Choy 2005; Blok 2014). Examining rhetorical elements generally is also useful for understanding how discourses coalesce into narratives or storylines—discursive formations that position actors in certain roles, propose causal relations, and suggest possible solutions (Kaplan 1986; Roe 1991).

Narratives depend partly on the possibility for multiple interpretations, which allow actors to draw meaning from independent events, such as fish mortality in the case of acid rain discourse (Hajer 1995). At issue here is not whether storylines are “true” but rather the way actors employ narratives to represent a given phenomenon. Examining these discursive elements, in addition to the social and historical context, can be useful for determining how environmental problems are co-produced by diverse actors and how policies are contested, challenged, or defended. Narratives can become structured and influential when actors’ credibility depends on their use of specific discourses, and they can become institutionalized (e.g., incorporated into formal policy) (Hajer 1995; Dryzek

2005). Storylines or narratives are adopted by emergent *discourse coalitions*, groups of actors united in their attraction to and deployment of particular narratives. According to Hajer (1995: 65), discourse coalitions form “if a common discourse is created in which several practices get a meaning in a common political project.” These differ from Sabatier’s (1988) concept of policy coalitions in that actors need not have the same interests or beliefs to share in the tactical use of common storylines (Hajer 1995).

The Mexican fishers’ confederation (CONMECOOP) can be considered a type of interest group with incentives to position itself advantageously in relation to federal government actors, as well as to its constituent federations and cooperatives. Government actors’ responses to fishers are likely also shaped by their own incentive structures, such as length of office tenure and likelihood of re-election (Moe 1995). In the context of this research, fishers enter conversations with government on unequal footing. The ultimate decision-making authority resides with federal agencies. Inviting government actors to the assemblies of their organizations is explored here as a mechanism for fishers to express grievances and participate in the production of meanings and understandings. Through our analysis in the following sections, we seek to demonstrate how actors co-produce understandings of climate change and other problems at the CONMECOOP assembly. We also examine the ways actors position themselves in relation to one another, and how their policy narratives prioritize certain kinds of knowledge and management rationalities. However, the dialogues taking place at the assemblies of CONMECOOP alone do not explain policy change and must be understood more broadly through other political practices and historically grounded relations of production, power, coercion, and contestation. We contextualize our findings accordingly in the following sections, although exploring in depth some of these dimensions is beyond the scope of this paper, which focuses instead on the assembly as a site where meanings are co-produced and policy preferences become articulated. These forms of narrativized argumentation offer insights into the major issues, debates, and tensions surrounding fisheries policy in Mexico.

Findings and discussion

Problem framings and the discursive positioning of different actors

In the general assemblies of CONMECOOP, there is a specific structure for engagement between fishers and government actors. One confederation member is elected as moderator for the assembly. The conversation with government representatives is a relatively open forum in which any fisher can ask a question or comment, followed by responses from the

representative, or sometimes followed by additional comments from other fishers before a response. Argumentation is therefore a central element of these discussions. In the 2016 assembly, fishers first welcome and address a representative from CONAPESCA, the Director of Organization and Development. After speaking with him at length, a separate discussion takes place with a researcher who represents INAPESCA. The question-answer structure of the dialogue allows actors to position themselves in particular ways, bring up issues they want to discuss, and engage one another directly.

Throughout the assembly, both fishers and government officials address several problems related to the management of fisheries. Some of the major problems included lack of access to subsidies from CONAPESCA, illegal fishing, inadequate monitoring and enforcement, and climate change. The overall tone of the assembly indicates both a preoccupation with these problems and a focus on producing strategic, direct action to solve them. In the words of the moderator, this is not an “assembly of lamentations. We want this to be [...] an assembly of proposals.” Both fishers and CONAPESCA’s representative emphasize the need to create strategic proposals that can be used for leverage and collaboration with higher levels of government. Other fishers place emphasis on demanding that things are done with immediacy and urgency, that neglected segments of the fishing sector be brought to the attention of the central government, or that fishers take matters into their own hands.

Generally, fishers in the assemblies make several kinds of rhetorical arguments that serve to reinforce their credibility and the urgency of their problems. Key arguments, summarized in Table 1, include (1) appeals to historical experience or the importance of the “social sector”; (2) appeals to the high productivity of the small-scale sector, as well as declines thereof; (3) conflicts with the industrial sector or foreign fleets; and (4) implicit threats of violence or resistance. These arguments reflect both the speakers’ subject positions and the kinds of rhetorical language they use. An appeal to *pathos* or emotion is evident in some fishers’ implicit threats to promote resistance, potentially violent in nature, if problems are not addressed. For instance, one fisherman references past conflicts in Yucatán over illegal sea cucumber fishing, in which local fishers set fire to the vessels of illegal fishers (see Table 1). Another fisherman speaking on behalf of cooperatives in the state of Chiapas positions the sector as dependent on the federal government while also appealing to *pathos* in the audience: “More than anything this is a cry for help from the fishing sector of Chiapas [...] We are fishers who need our federal government.” Asking for the federal government’s aid, this fisherman also positions the sector in opposition to local governments, which he describes as “avoidant” and “lazy” when responding to fishers’ issues: “The social sector has hope. We can’t do it alone. Some local governments

Table 1 Rhetorical arguments made by fishers in the 2016 assembly

Type of rhetorical argument	Example quotes
(1) Historical involvement and challenges of the small-scale sector	<p>“I have been a fisherman since 1962.”</p> <p>“Finally, some of us have been fishing for over 40 years and we struggle to come to this meeting, but here we are.”</p>
(2) Productivity of the small-scale fishing sector	<p>“[...] for the particular case of Guerrero, Oaxaca and Chiapas, which are the states I represent here and have the most production in the country.”</p> <p>“Here we produce an economic volume from fishing that in others, even if they have better numbers, they have a low volume of production [...] we have high value.”</p>
(3) Conflict between the small-scale and the industrial sector	<p>“I come from the federation of Guasave to tell you we have a serious problem with tuna and sardine vessels [...] they come to the shores and they take everything.”</p>
(4) Implicit threats of resistance	<p>“We have to take very seriously what we are getting into, because people blow up and fishers are very volatile, especially when they need money.”</p> <p>“I said, friends, this is not going to get resolved. Let us burn the damn boats. We burned the boats and it got resolved.”</p>

respect us, but others ignore us. So, our only option is the federal government. We must face the issues together in a pragmatic way.” These forms of positioning suggest fishers perceive the role of the federal government is that of a paternalistic caretaker, responsible for establishing order and assisting fishers. This proposed role for the state reflects historical relations of production, given the Mexican government’s crucial role in developing fisheries through legislation, subsidies, and development programs (Quezada Domínguez 1995; Young 2001; Martínez and Laxe 2016).

Fishers enact a particular kind of positioning, appealing to *ethos*, when they describe small-scale fisheries as a productive and important *social sector*. This positioning emerges historically from relations of labor and production under cooperativism, in which cooperatives emerge as distinct from the private sector (Vargas-Cetina 2005). More specifically, the concept of the “social sector” is a legal-judicial term used in public administration in Mexico to refer to a number of entities that cannot be defined as private (e.g., capitalist firms) or as public (Calvo Blanco 2017). The term can be used to refer to *ejidos*, syndicates, cooperatives, and peasant organizations, but in fisheries, it usually refers to small-scale fishers (*ribereros*) organized in cooperatives (Yurkievich and

Sanchez Crispin 2016; Martínez and Laxe 2016). In the 2016 assembly, and in the politics of Mexican fisheries more broadly, fishers discursively perform the identity of the social sector as one that is distinct from the industrial sector (*armadores*), with whom they express having conflict at least nine distinct times. The industrial sector becomes the subject of narratives of inequality and marginalization. According to one fisher in the 2017 assembly, the social sector should be angry at the “inequality between the powerful industrial sector and the social sector.” Simultaneously, as fishers interpellate (sensu Althusser 1971) or discursively give identity to the federal government as caretaker, the social sector becomes a subject of the state’s intervention. In addition, in fishers’ rhetoric, differentiated social groups (e.g., fishing sectors) become homogenized and different actors acquire specific roles, which, as government actors’ responses suggest, become subject to contestation.

Responding to fishers’ questions and demands (Table 2), government representatives at the 2016 assembly primarily make efforts to (1) reiterate and reinforce the commitments of federal agencies to the cooperative sector. Stated commitments include continuing to work together with fishers, to facilitate participation in forums for the negotiation of

Table 2 Major types of responses by government actors to fishers' demands

Type of response	Example quotes
(1) Reinforcing commitments to collaboration	"As you can see, we are truly compromised with the sector [...] and now that we are working closely with the support of the secretary who knows well the issues of the sector [...] the work we are doing, and the basis and support of the studies comes directly from you. That is something we must acknowledge and thank you for."
(2) Encouraging fishers to exert their power as citizens	"The other thing I think is best, especially now that election time is coming in many states, I think that with you who are leaders, you who are always in contact with the legislative [government], and who are sometimes the ones who practically decide in congress what amounts go to each program, we have to seek a greater budget for the fishing sector"
(3) Scientific, rational, or economic explanations of management problems	"Effectively, when we are talking about benthic resources like clams and conch, and the management of the fisheries is short-term, we have to do the studies to define the conditions of the populations. And based on that, we can define the quota for the exploitation of that species."
(4) Shifting responsibility to fishers	"As government officials, we pay attention to the documents presented by fishers [...] which say, 'I present this, I have this permit, I am part of this cooperative' [...] In the face of this, there is little we can do."

policies, and to ensure intended benefits of fisheries policies (e.g., subsidies) are directed to the small-scale sector. Other responses by government officials included (2) encouraging fishers to exert their own collective power (e.g., through voting) and put pressure on congress to increase the budget available for fisheries agencies; (3) using scientific explanations of climatic or other environmental phenomena, appealing to *logos*; and (4) and otherwise shifting the responsibility over certain tasks to the fishing sector (e.g., arguing fishers must complete paperwork correctly).

Government actors support their stated commitments partly by positioning themselves in relation to higher-ranking and ostensibly respected members of their agencies. For example, the representative from CONAPESCA begins his introduction by positioning himself as a direct link to the National Commissioner of Fisheries and Aquaculture, saying the commissioner is a committed official who always considers the fishers and sends them an affectionate greeting. This is a clear appeal to *ethos*, signaling the agency's ethical commitments to the sector and the speaker's allegiance to his agency. In addition, while he emphasizes his limited ability to act on several issues given his position, he also positions himself metaphorically as spokesperson (*vocero*) or speaker (*altavoz*) to his superiors and other departments in CONAPESCA. The government official makes himself synecdoche to CONAPESCA

(i.e., a part that comes to represent the whole). He tells the fishers he represents the broader agency: "Take me as a spokesperson to all the other directors to be able to transmit everything you have [...] We are here representing CONAPESCA in general, and any issue we can help facilitate, here we are." This discursive positioning gains momentum in the assembly, as fishers take up the same language to frame subsequent exchanges. For instance, one fisher begins his comment by saying, "I come from Yucatán [...] and I come to tell you about a problem we have here with fishing, since you said you want to be a spokesperson to your leaders in CONAPESCA."

Similarly, the representative from INAPESCA invokes the character of his supervisor, describing him as a committed public official working "hand in hand" with fishers. This rhetorical appeal to *ethos* implies the speaker is credible given his proximity to leadership, while reinforcing his agency's stated commitments to collaboration. After referencing his supervisor, he says: "INAPESCA is an institution that works directly with you. We are working day after day, hand in hand with you. The studies and investigations we do, we couldn't do without you, [...] you all know it." The representative from INAPESCA never explicitly offers himself as spokesperson for fishers' issues in his broader agency, but fishers interpellate or call him into this position, urging him to play this role.

One fisherman begins his public comment as follows: “Doctor, taking advantage that you are here as spokesperson to the institute [INAPESCA], there is something the officer forgot about.” The fisher explains some issues of inequity in access related to the closure of shrimp fisheries and concludes by saying: “Take this into account. Become our spokesperson if it is necessary.” These are moments in which actors become positioned in certain roles—in this case, fishers urge the representative to become an advocate for the sector. These discursive positions also reflect ongoing tensions regarding the role of state agencies and fisheries research in sustaining fisheries production and promoting social sustainability.

Throughout this discussion, fishers and government actors use the word *problemática* (in Spanish, a set of problems) to invoke specific clusters of issues. Simplified names for problems become shorthand for complex management issues. For example, *furtivismo* refers to illegal fishing and poaching. Illegal fishing may be distinct from poaching (e.g., fishing without a license versus poaching valuable or protected species) and could refer to conflicts within the small-scale sector or with foreign vessels. Each problem framing invokes a particular storyline along which there are some convergences (e.g., all actors recognize there are enforcement problems), but differences are likely to exist in the ways fishers and government actors perceive these issues. Referring to *furtivismo*, one fisherman says, “Everyone knows the subject,” before going on to argue that illegal fishing is the reason all species are declining. Although illegal fishing is obviously a major issue, this fisherman’s use of hyperbole belies the reality that fisheries declines result from the interaction of multiple causal factors, and other actors in the assembly might disagree about which ones are primarily to blame.

In addition, although they are discussed as discrete issues, problem framings are interrelated. For instance, fishers lament the lack of aid received from one of CONAPESCA’s subsidy programs, which compensates fishers for opportunity costs associated with closures (*vedas*), but the perceived issue stems from fishers lacking permits for species being compensated through the program or lacking fishing permits altogether. Permit allocation is itself influenced by scientific assessments carried out by INAPESCA, through which CONAPESCA determines which fisheries are sustainable and profitable (“rentable” according to the INAPESCA representative; CONAPESCA 2010). Nonetheless, invoking these different problem framings allows each actor to establish a relatively shared problem framing when addressing others, responding to a question, or proposing solutions. In the following section, we examine more closely how the problem of climate change is discussed in the 2016 assembly, where it was a central topic, and the narratives and arguments that emerge around this problem framing.

Climate change discourse in the 2016 assembly

Climate change discourses tend to be characterized by urgency and timeliness, epitomizing the rhetorical concept of *Kairos* (Nicotra and Parrish 2010). Understandably, the tone of current conversations can be summarized as follows: Climate change is happening now, so what are we going to do about it? Powerful discourses about the “end of the world” have emerged in describing climate change and associated environmental crises (Danowski and Viveiros de Castro 2017). These framings can sometimes preclude the possibility of “staying with the trouble” and engaging in generative forms of co-existence that might give rise to alternative futures (Haraway 2016). Conversely, some strands of discourse about the climate crisis reflect what Dryzek (2005) refers to as administrative rationalism, a political-environmental discourse that positions experts and bureaucrats as protagonists responsible for solutions and adaptations to global environmental change.

At the 2016 general assembly of CONMECOOP, elements of urgency are evident in the discourse used to describe climate change, as well as fisheries issues more generally. The fisherman who acts as moderator begins the discussion with government officials by expressing a sense of urgency, while simultaneously positioning himself in relation to the director of INAPESCA as a scientific authority: “And a message the director has always given us, that climate change, to use his words, is already here, although many of us don’t want to see it [...] So what are we going to do for our future? [...] the truth is we have lived it all first-hand this past year.” Throughout the assembly, fishers draw direct associations between climate change and fisheries declines or shifts in the spatial distribution of target species. Government representatives agree with fishers that climate change is to blame.

Discussions of climate change at the 2016 assembly form a particular narrative, deployed by both government representatives as an appeal to *logos*, which centers scientific understandings and expert-based solutions. The representative from CONAPESCA makes the following explanation about climate change: Even minor changes in temperature (e.g., associated with El Niño events) affect “cold-blooded organisms,” more than “terrestrial or warm-blooded animals,” but we do not react quickly to the changes of nature, which leads to the *problemáticas* with salmon, sardines, and other commercial species; these changes favor some organisms but not others, and many “products” (i.e., catch or resources) will disappear in some places, because organisms seek their best “adaptation” in the “substrate in which they live.” He says the effects of climate change have mostly been negative so far, but emphasizes that “There is a readjustment until fisheries return to a normal state in which there will be a prevalence of El Niño/La Niña with little difference in temperature” and negative impacts will decline. His conclusion is that the government

“must rely heavily on science to guide us and see when we can begin and end a fishing season.” He positions both federal agencies and their activities as central to the dilemmas posed by climate change.

Several inconsistencies are evident in this representative’s narrative. Fisheries and climate science face the similar challenge of high uncertainty, yet this actor’s rhetoric suggests a single-equilibrium understanding of ecological systems—asserting the system will return to a “normal” state—which has been challenged significantly in ecology (Folke 2006). Another issue here is the assertion that “we” do not adapt to nature’s changes—although it is unclear who “we” are, this positioning suggests an understanding of nature as separate from humanity, an unpredictable force to which we nonetheless must respond. In this actor’s narrative, harvested species are simultaneously living, agential beings, and commodities (i.e., product)—a tension that is clear in some of the critical discourse on fisheries (e.g., Bear 2013; Campling et al. 2012). The claim that we must rely on science to answer all these questions suggests this narrative is rooted in ideological discourses like administrative rationalism (Dryzek 2005) and ecological modernization (i.e., implying that technological fixes will effectively solve environmental problems; Hajer 1995; Dryzek 2005). Fishers are seemingly assuaged by these responses, although scientists fail to address some major concerns, such as equity in the distribution of funding or the allocation of permits. Nonetheless, fishers take up scientific climate change discourse to explain broader trends and declines in fisheries, despite disagreeing about the exclusivity of scientific knowledge:

We do recognize the [research] efforts, we do, but we should focus efforts in the most pragmatic way to resolve needs more short-term. I know investigations are done little by little, but I also know that science should be based on [...] daily observation, on the daily practices of fishers [...] Because as you say about climate change, well, we all live it. We are seeing that fisheries are not what they were. It’s time now.

Statements about climate change by the representative from INAPESCA converge with the representative from CONAPESCA. The former agrees that the effects of climate change are increasingly evident in fisheries and aquaculture, and that scientific assessments being conducted using research vessels from the USA will be a crucial means for making policy decisions. Describing their efforts with these vessels, he says: “Climate change is happening, and we are monitoring it in real time aboard the vessel, and it’s something very important, and we are looking at it and measuring it.” In this narrative, climate change becomes something “out-there” that can be measured and monitored, re-centering the measurement strategies of state-scientific agencies.

However, despite pleas to incorporate fishers’ experiences into research agendas, some of the discussions about climate change suggest a degree of administrative inflexibility. When pressed to talk about slow bureaucratic processes preventing fishers from acquiring permits to harvest cannonball jellyfish (the cnidarian *Stomolophus meleagris*), the representative from INAPESCA responds that permits are allocated by zones, and that zones are defined in relation to resources. The jellyfish had become abundant in some areas and fishers urged scientists to make assessments of the viability of the fishery. The representative argues they cannot give permits to everyone for this resource to ensure profitability:

It would be as if we had a party every year and we each get a slice of cake, and the more guests we have, the thinner the slice of cake we each get. Until there will be a time when we wouldn’t go to the party, because we wouldn’t have enough. That is what happens with resources and that is why we are defining the correct effort for each resource so that it is truly profitable.

The colorful metaphor of the cake mirrors Hardin’s (1968) image of the overgrazed pasture in the tragedy of the commons, both in its simplicity and in terms of how this problem framing leads to solutions like centralization and privatization. It centers government experts as the key actors determining resource access and prioritizes economic profitability as rationale for governance. The exchange also begs several broader questions. If species are increasingly shifting in distribution (whether in response to climate change or not), how can spatially fixed permits adequately address the allocation of resources? Conflicts arising from spatial restrictions associated with permits suggest a refusal by state agencies to be flexible in terms of geographies or epistemologies already established as legitimate. This unwillingness to see (or conversely, fixation on a particular way of seeing, sensu Scott 1998) is precautionary but seems at odds with ever-shifting ecological dynamics. It also ignores other forms of knowledge that exist about abstract phenomena like ecological populations or species ranges.

At the same time, fishers at the assembly demand more scientific assessments and their language tends to echo the emphasis on profitability. One fisherman makes direct links between the need for research, the major issue of illegal fishing (*furtivismo*), and the need to secure economic gains for small-scale fishers:

We also need studies to see in which ways illegal fishing has already affected this species, which is not a species that can develop quickly. [Conch] is a species that cannot run, does not walk. So, we want to know how you can support us and have studies done, and know how this fishery is doing. That fishery, if we are able to

regulate it and care for it well, believe me we would have good capture and economic outpouring for fishers.

This comment illustrates how both fishers and government actors emphasize economic aspects of sustainability as rationale for governance and scientific assessments. Through argumentative claims, both groups of actors loosely form a discourse coalition that prioritizes scientific knowledge. The technical opinions being produced are hybrid legal-scientific documents in which INAPESCA makes policy recommendations (e.g., closures, size limits). Technical opinions are objects constituted by articulation or translation across different knowledge realms (Robertson 2006). That is, scientific knowledge comes to gain political meaning through the production of these technical opinions. Fishers demand scientific assessments partly to gain access and capture economic benefits, while government agencies become positioned as indispensable governance actors through the production of scientific recommendations. Nonetheless, fishers' demands for scientific research differ from the views of government officials. Fishers demand greater participation and involvement opportunities in research, for example, (1) taking fishers' observations and daily experiences in greater consideration and (2) allowing fishers to establish laboratories to test the safety of mollusks and expedite certification processes. Fisheries agencies in Mexico have been receptive to some initiatives for participatory research, notably the creation of fisheries refugia through collaboration with fishers and NGOs.

Fisheries refugia as sites for the negotiation of fisheries management

Fisheries refugia are small marine areas in which fishing restrictions are established to protect target organisms during important life-stages (e.g., spawning sites, nurseries) to prevent population declines and increase resilience to pressures like overharvest and climate change (Paterson et al. 2013). With legal recognition from the federal government, fishers are now collaborating with NGOs to establish networks of refugia throughout Mexico. Fishers are directly participating in the collection of ecological data and knowledge co-production in a novel sense. Simultaneously, local knowledges are being constituted through the national logic of scientific assessments, which are most readily legitimized and recognizable for management. The NGOs participating in these processes can be conceptualized as boundary organizations, facilitating articulation between different realms of knowledge and negotiating different interests (Gray 2016).

Fisheries refugia are also sites for the contestation of rights to access and appropriate different resources. In the context of the CONMECOOP assembly, fishers make different arguments to bolster claims about resources, as well as to attempt to secure or extend their access over certain species or

geographic areas. One fisherman points to coastal reefs in Zihuatanejo, Guerrero, as important nurseries for valuable and declining species (e.g., the red clam, *Megapitaria aurantiaca*), arguing they should be protected. Another fisherman from Baja California references a refuge that has existed for almost 5 years, and presents the issue of spillover. The refuge was created for preventing the exploitation of certain finfish, but other species are proliferating there (e.g., lobster), and fishers would like to gain access to harvest them. The fisherman argues that, although other fishers in the area are interested in forming more refugia, they will lose interest if government does not produce technical opinions and permits for relevant target species. Government officials respond in anticipation to this kind of argument, emphasizing they do not want to create false expectations of new fisheries opening. These exchanges illustrate the significance of refugia as sites for political contestation through which fishers are interested in extending their extractive activities while government actors are positioned as agents of enclosure.

These exchanges also illustrate a common dynamic in fisheries governance in Mexico, which has centered on access to fishing permits. Fishing permits have been the main instrument used by the federal government to control fishing effort, as far back as the Law of Fisheries of 1925 (Soberanes Fernández 1994). Accordingly, access to fishing permits (which was exclusive to cooperatives for some time) has driven distinct institutional ecologies in which some cooperatives formed only to gain access to permits, whereas in some cases fish buyers with permits (*permissionarios*) have used them to maintain control over fishing labor (Cinti et al. 2010; Basurto et al. 2013). Changes in fisheries legislation between the 1980s and 1990s have directly shaped these dynamics, shifting the incentives of the cooperative sector. As the president of a federation in Oaxaca points out, changes to the Law of Fisheries of 1986 eliminated exclusive access over certain species and the exclusive granting of concessions for cooperatives. In addition, the Law of Cooperatives of 1992 decreased the minimum required number of members in a cooperative to five, making possible the formation of smaller or family-based cooperatives. Discussions at the assemblies of CONMECOOP reflect these tensions. In the assemblies of 2017 and 2018, fishers expressed frustration over the proliferation of small cooperatives, arguing they were not "real" cooperatives. These became debates over what constitutes a real or pure cooperativist sector (*sector social*). Attending to these exchanges at general assemblies offers a useful first step for understanding fishers' perceptions of broader policy changes.

Conclusions

The range of discursive strategies used by fishers and government actors at the general assemblies of CONMECOOP demonstrate how the identity of the sector, roles of actors, and

positions on problems like climate change are represented in political argumentation. Our analysis has focused on the ways actors position themselves and others in narratives that are indicative of broader debates and issues in the governance of fisheries. Some of these positions are related to sector or class identities (e.g., cooperativist versus industrial sector), while others reveal tensions regarding the role of the state and the production of scientific knowledge in resource management. Fishers have particular ideas about the kinds of support they expect from government agencies. Meanwhile, in these political performances, federal government actors respond to fishers and come to be positioned as allies to the sector, as spokespersons in support of fishers, or as agents of decision-making and expertise. The narratives and types of discursive positioning that emerged during CONMECOOP's 2016 assembly suggest fishers and government actors formed a loose discourse coalition around shared problem framings or *problemáticas*. For example, both fishers and government officials employ scientific framings of climate change in their arguments, despite diverging in their specific interests and visions for how problems should be managed. Both also coincided in the perspective that economic profitability is a major rationale for governance, and that the role of state agencies should be to support the cooperativist sector and produce scientific knowledge to inform management.

More generally, this work suggests there is space for reconsidering some elements theorized by institutional scholars of natural resource governance and policy. According to Bridge and Perreault (2009: 476): "Governance refers to the fundamental question of how organisation, decisions, order and rule are achieved in heterogeneous and highly differentiated societies. At its core, governance addresses the problem of economic and political co-ordination in social life." As such, governance refers to a number of different forms of organization including laws and formal regulatory structures, and also the kinds of political work that define policy objectives and rationalities for planning and regulation (Nuijten et al. 2004). By political work, we refer to the practices through which some actors become positioned as spokespersons for others (Stengers 2005), the kinds of representational, performative, and instrumental work through which worlds-in-common are formed (Latour 2004). Political practices can also be understood as those in "which artefacts, activities, or practices become objects of contestation" (Barry 2001: 6). Whereas institutional scholars have long attended to the interplay of formal and informal rules that shape resource governance arrangements, less attention has been paid to the discursive and performative dimensions of political work that underpin them. In this study, we have taken a relational perspective through which we can understand the governance of fisheries as an ongoing process that brings together different actors, discourses, institutions, and political subjectivities in particular yet dynamic configurations.

Examining the discourses used by actors involved in debates about governance can enhance our understanding of governance processes, institutions, and collective action. We can understand institutions as "the prescriptions that humans use to organize all forms of repetitive and structured interactions" (Ostrom 2005: 3), and more broadly also as the patterns of behavior that emerge from those rules and their interplay with other social-ecological components of the world (Leach et al. 1999). As McCay (2002: 388) points out, processes of collective action, such as the political work carried out by the confederation, "reshape [...] networks, meanings, perceptions, and social experience" in ways that affect the context of people's choices regarding institutions and their involvement in governance. This insight suggests processes of collective action emerge from specific historical contingencies and have the capacity to dynamically assemble and reassemble social realities. Similarly, institutions are not stable objects or outcomes, but rather historically contingent and emergent from specific practices (Jessop 2001). Underlying specific rules are open-ended and contested processes of rule-making (Havice and Iles 2015), and we might benefit from attending to those processes in addition to the structure of rules and incentives. Lastly, while the IAD framework includes categorization of different actor's positions, there has been less emphasis on the micro-political moments and discursive maneuvering that co-produce positionalities in action situations. We hope this work demonstrates the value of attending to discursive practices as a tool for understanding the ways actors position themselves and others in distinct policy narratives, an approach that enriches and challenges institutional analysis for the study of governance.

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