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The Old Men and the Sea: An Exploratory Study of Collective Action in Large Scale Resources,  
International Law, and Nested Enterprises.

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2015

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An abstract of  
a thesis submitted to the Faculty of Emory College of Arts and Sciences  
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## Abstract

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By Philip Mark Browning Winkle

Fishing communities are about more than fish. They can be microcosms for a larger society working together to overcome collective action problems. Such problems are becoming more and more layered in international law. So if a nation's laws contradict those of international organizations, like the United Nations and the International Court of Justice, will this political environment impact local communities' level of collective action in working with large-scale CPR systems such as fisheries, forestries, or even the global climate? I hypothesize that such a break sends mixed signals to local communities that ultimately hurt collective action. I build from Ostrom's (1990) concept of nested enterprises, and a recent effort to apply her early work to such large-scale resources. This thesis explores collective action in Laayoune and Dakhla, Western Sahara, and Agadir, Morocco, and presents my own field research conducted in the region.

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## Acknowledgements

I first acknowledge that the conflict in Western Sahara is controversial. This thesis does not take a position on that issue. Instead, it seeks to better understand the impact of international law on local behavior, and the applicability of concepts such as Nested Enterprises and External Disturbances to larger resource systems. The goal is to help inform that discussion. With any luck, this thesis will serve as a jumping off point for scholars interested in such work.

Second, this thesis exists because of the dedication, work, and companionship of others. I thank Aimane Idhajji, Hassan Lahoume, Imane Bermaki, Mohammed El Kihal, Fatima-Zahra Berrada, Hajar Abjeg, and Omar Tombokti. If not for the immeasurable support in organizing travel, places to stay, and translating during the interviews, this project would not have been possible. I also thank Michael Fires for helping me make the superb map in this thesis, as well as Becca Berge and Zachary Browning for reading through the more horrendous versions of this thesis. There are so many people (both in the United States and abroad) to thank, and if I mention all of them by name this thesis will be double the length. I must again thank Aimane Idhajji whose companionship and language skills were pivotal to the success of this thesis.

Field research is a rare opportunity. I am still struggling to understand how I could be so fortunate. I am humbled to see so many people believe in me. I thank my advisor, Professor Thomas Lancaster, and my other mentors, including Professors Richard Doner, Tracy Yandle, Rkia Cornell, Carl Brown, and Beth Reingold—to name a few. They saw that this thesis is about more than fish, but rather as a personal and academic endeavor to understand why people behave the ways that they do under a set of laws.

Finally, I thank my Mom and Dad. Steven Winkle and Patricia Paige Browning are a great set of old people. Their unyielding love and sacrifice are beyond describable. They deserve so much more, and I hope to earn such unconditional support. If I can become half the person either of them is, I will have done well. If I can be a quarter the person they think I will become, it will be a miracle. The love and compassion they offer me is proof that greater miracles are possible. In fishing, as in life, it only takes time.

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## **Introduction**

Upon arriving in Agadir, Morocco, one of my first interviews was with an artisanal fisherman sitting alone at the end of a small dock. The other fishermen were beginning to head home, tying up their canoes and stowing their gear. He continued to stare down as I asked him for an interview, decapitating sardines before placing them in salt. The fisherman sat alone, as I began to imagine all fishermen did. “The government doesn’t help,” he said, and “they (fishermen) do not care for each other.” When asked about why his catch had been declining the last ten years, he replied, “it is what Allah wants.”<sup>1</sup> The situation could not be helped. I continued to imagine that fishermen were even more isolated from each other in the Western Sahara, where Morocco’s national law is administered in spite of international laws protecting the rights and resources of Sahrawi fishermen. With so little control over destiny, why would such fishermen organize? The hook was set.

The role of layered institutions and levels of governance is touched upon in both the literature on collective action and common pool resources (CPRs). This body of scholarship is heavily influenced by the work of Garret Hardin, H. Scott Gordon, Mancur Olson, and Elinor Ostrom. Their work highlights two diverging world-views about collective action and resource management. Theory has long considered collective action more difficult in large communities (Olson 1965) without a governing body’s use of coercion or support for privatization (Hardin 1968; Gordon 1954). Ostrom’s (1990) seminal work, *Governing the Commons*, establishes eight design principles as necessary conditions for facilitating lasting collective action (Fleischman et. al 429). These principles are popular in the more recent literature on CPRs, but their applicability to either large-scale resource systems or the international arena remains unclear (Cox et. al 2010; Fleischman et. al 2014).

If a nation's laws contradict those of international organizations, like the United Nations (UN) and the International Court of Justice (ICJ), will this political environment impact local communities' level of collective action in working with large-scale CPR systems such as fisheries, forestries, and the global climate? This explorative study investigates the role of international law in the collective action of artisanal fishermen in the cities of Agadir, Morocco and Western Sahara's Laayoune and Dakhla; it does not specifically look at collective action as it relates to managing a resource system. Collective action may be either positive or negative, as some people may organize to profit rather than preserve a resource system. As collective action is a first step towards communities sustaining resources, collective action is examined generally. If groups organize to profit due to other variables, perhaps they can one day refocus their collective activities towards sustaining resources when conditions permit. The objectives of this study are (1) to assess the impact of international law on a local community's collective action (2) to assess Elinor Ostrom's design principle, nested enterprises (a principle about the coherent layering of rules) in the international arena, and (3) to explore other factors that affect collective action. The study will first assess trust and group size as possible factors influencing collective action before turning to assessment discussing Ostrom's principles. External disturbances are explored as another factor impacting collective action, and are highlighted in the present study due to both their role in theory as well as their rising significance in the literature on CPRs.

Because this study looks at CPRs and collective action, its theory looks to Ostrom's eight design principles of enduring collective action systems. In doing so, it joins a recent attempt by scholar Forrest Fleischman (2014) to assess the role of Ostrom's eight design principles in large-scale resource systems and a in wider political context than was originally proposed.

Specifically, this study's exploration focuses on Ostrom's eighth principle, nested

enterprises, as it applies to large resource systems. This study adopts the position that nested enterprises are a necessary but insufficient condition for enduring collective action, that when rules, laws, or policies are nested in a coherent way, collective action is higher relative to where they are not. This study suggests that it is theoretically possible to incorporate international law into this principle, and that doing so provides insight about successful relationships between levels of governance. Thus, the study incorporates the international level of governance into Ostrom's basic 1990 definition.<sup>2</sup> The overall argument of *this* study states that international law inhibits local collective action when it contradicts national laws. The results of this explorative study suggest otherwise.

This study's methodology and empirical analysis follow its theory section, and tests three hypotheses in order to frame the exploratory data on collective action. The artisanal fisherman serves as the unit of analysis, and looks at such individuals' collective action efforts in three artisanal fishing communities. Artisanal fishermen are defined as boat owners and fishermen operating canoes approximately six meters in length. Fishing from land and mollusk gathering are excluded from the analysis.<sup>3</sup> The methodology is comparative, and contrasts two of Western Sahara's artisanal fishing communities' level of collective action with Agadir, Morocco's artisanal fishing community. Due to the relative wealth of data on Agadir, the Western Sahara cases may be seen as shadow cases in that they help the scholar make inferences about the role of international law.

Within the empirical analysis, the general structure of Morocco's industry is described, as well as the condition of the industry and its artisanal fishermen. Description in the empirical analysis places the cases in their context. A general structure of Morocco's industry is similarly described, as well as the condition of the industry. Internal and external factors that change a

community's level of collective action are identified in order to provide scholars with a basis for future research. The explorative study concludes with a discussion of Ostrom's nested enterprises principle, the implications for collective action in the face of international law, and the role of other factors identified in the literature. I close with propositions for future research.

### **Literature Review/Theory**

This section explains how the nested enterprises principle that incorporates international law is a necessary but insufficient condition for enduring collective action systems. Enduring collective action systems require the presence of a nested enterprises principle, but this principle alone is not enough to ensure lasting collective action. Collective action, groups, and incentives and institutions are introduced generally before moving to the commons' literature and a more specific terminology. I assume that given their environment, actors search out and employ the strategy with the most utility, be that empirical or normative (Tsebelis 1990, 1). Likewise, it is assumed that a leader wants to remain in power, and thus is willing to violate international laws when sovereignty over a territory or resource—such as fishing—is at stake.

#### *Collective Action*

Using the fishing industry as an example, what does collective action look like? Fishermen can demonstrate collective action by working together to share the day's profits, striking against the government to increase their collective profits, or monitoring and sanctioning each other to minimize illegal activity. Collective action is arguably the cornerstone of political science and effective government. Collective action is defined here as organized attempts by fishermen to achieve their community's common objectives within the CPR industry, such as sharing equipment, organizing petitions for fishermen's rights, and assigning communal responsibilities

in order to sustain their industry or improve their economic and social well-being. However, to understand the non-cooperative behavior within this industry, it is important to understand CPRs.

Fish are a prime example of a common pool resource. A CPR is any resource that is both non-excludable (it is difficult to stop an individual's attempt to extract the resource) and scarce (limited in quantity) (Ostrom 1990). While fish reproduce, it is possible to fish beyond that reproductive capacity. If fishermen continue to extract the resource unabatedly, fish may be overharvested until the industry becomes unsustainable. Overfishing is thus a serious problem that threatens ecosystems, livelihoods, and national industries (Valentine 2005, 209; "Overfishing"). Prevention of overfishing calls for management of extraction, and collective organization of fishing communities can be influential in preserving CPRs. However, achieving collective behavior may prove difficult—let alone collective behavior aimed towards preserving the industry long-term.

Communities are groups where individuals potentially work together towards common goals. While formal groups are defined by written rules of agreed membership and objectives, a group may also exist informally and be bound and defined by the cultural and historic norms of an individual society (Heyer, Stewart, and Thorp 1999, 1-2). Groups may also perform some combination of the following three functions encompassing collective action: efficiency, claims, and equity functions. The first of these, efficiency functions, primarily comes from the perspective of New Institutional Economics (NIE), which argues that groups form to overcome market imperfections. In the case of CPRs, groups form to overcome externalities associated with the non-excludability and scarcity of particular resources. Second, groups may serve claims functions if they are formed to advance the claims of members to certain rights or resources. Finally, groups may serve an equity function to improve the distribution of resources, to gain



access to government services, or to improve the overall income of its members (Heyer, Stewart, and Thorp 1999, 5). In forming organizations such as cooperatives to distribute equipment, assign roles wherein people potentially monitor illegal behavior, or create some type of collective protest to obtain specific rights, communities may serve all three of these group functions.

Communities face collective action problems including environmental preservation, natural resource allocation, and keeping a neighborhood watch. If individuals refuse to organize, the community suffers. However, if individuals agree to organize, they must personally pay some organizational cost that exceeds the marginal benefit of collective action (Thomson, Gale 2015). Participating in a neighborhood watch takes time and assumes a level of danger, for example, and it may be that burglars would avoid that individual's household even if he did not participate. Therein lies the problem: individuals must choose whether or not to organize for the good of the community. When a community believes it could benefit by working together, individuals contemplate joining their efforts and resources to help achieve their collective goal. Collective action requires the consent of the individual to unite as a single entity, but doing so demands sufficient common goals.

Common goals might include better rights, improved economic well-being, or preserving the sustainability of CPRs. If a goal necessitates the change of current laws, then fishermen may pressure the state, "committing to exert resources and effort and assume the risk of negative government responses" (Ritter and Conrad 2014, 6). When communities seek to organize, free riding is a major obstacle to this goal; the status quo of no collective action prevails inasmuch as individuals have incentives to seek benefits provided by the work of others, and to contribute or assume as little risk as possible (Ostrom 1990, 6).

### *Institutions and Incentives*

Scholars of “new institutionalism” argue that institutions and incentive structures guide communities’ collective behavior (Schmidt 2008, 314). An incentive is anything that motivates or encourages a person to take action. Assuming actors are rational, incentives channel how actors perceive the costs and benefits of taking a specific action, i.e., balancing the likelihood of receiving a punishment against possible rewards (Cost-Benefit Analysis 1994, 3). People have an incentive to work together if both the individual and collective benefits exceed the cost of taking action, and the risk of taking such action is believed to be small.

Institutions structure incentives for individuals. According to Douglass North, institutions are “the rules of the game in a society, or more formally...the humanly defined constraints that shape human interactions” (North, 1990).<sup>4</sup> Scholar, Vivien Schmidt, adds that some institutions are subject to change as actors develop trust or mistrust toward them (Schmidt 2008, 318). This definition is more discursive, and beyond this study’s purpose. This study sticks with North’s definition because it focuses on the role of institutions themselves. Furthermore, institutional change may be explained as the result of international institutions structuring incentives alongside national ones. If these parallel institutions are in disagreement, and the incentives provided by one institution are stronger than its rival, the latter may be subject to change or ignored. The impact of various institutions and levels of governance is touched upon in the CPR literature.

### *Hardin to Ostrom, and the International Arena*

Moving to the commons literature, Garret Hardin’s (1968) argument on steady depletion of the commons is well known. Based on neoclassical economics, his theory builds upon H. Scott Gordon (1954) and Anthony Scott’s (1955) research, and borrows from Mancur Olson’s (1965)

work on non-cooperative games. Using a communal pasture as example, Hardin's 1968 "Tragedy of the Commons" argues that people will act in their self-interest and overexploit their resources until they are depleted. Conventional theories of collective action state that individuals pursue selfish, short-term benefits that may lead to collectively sub-optimal long-term outcomes. The solutions Hardin advocates are privatization or government-enforced central regulation (Kirkpatrick 2012, 4; Poteete, et. al 2010, 220; Ostrom 1990, 40-41).

These solutions remain especially prominent in the management of large resource systems including fisheries, forestries, and the global climate (Kirkpatrick 2012, 17; Poteete et. al 2010, 220). Some scholars argue that organizational costs, such as time, money, and the sharing of information from its members, are too high for communities to self-organize. Among group members, a logical incentive to free ride exists (Ostrom 1990, 6). As the size of a group increases, so do basic organizational costs and the probability of free riding. Groups cease to organize when organization costs outstrip benefits to members, the membership is too large, or they become aware of free riding. Consequently, common pool resources tend to be exploited beyond their regenerative capacity (Hardin 1968).

The collective action literature builds on Olson's work, which in turn, broke from earlier scholarship on group theory. The latter had played to normative ideas that groups are natural outgrowths of modern civilizations. The group theory of Raymond Cattell and Arthur Bentley had argued that people formed and created groups because rational individuals tend to choose the common objective to satisfy their self-interest (Olson 1965, 11). Olson (1965) argued otherwise, stating organizations—especially groups with large memberships—continued to fail because it was illogical for them to sacrifice their time and savings when others may skimp on their end of the bargain.

Olson posits that an alternative solution for small to medium-sized groups and resource systems is possible. Examples of small to medium-sized resources systems include irrigation schemes, small farms, and inland fisheries. One common feature they share is having resources found within national borders (Ostrom 1990). Olson argues that small groups are able to mobilize given low organization costs relative to the collective benefits of group activity (Olson 1965, 11). Group members are able to monitor each other, share information, and reach consensus more easily when numbers remain small (Frieden, Lake, and Schultz 2010, 56).

Small groups are able to mobilize more easily than larger ones, but this conventional theory of collective action neglects a nuanced understanding of universal factors (principles), which underpin successful collective action. While Olson and Hardin emphasize organizational costs that coincide with the size of resource systems and the number of group membership, they are not a necessary condition for successful collective action. Groups of similar sizes can exhibit different levels of cooperation. Variables including the transparency of institutions, the cost of implementing institutions, monitoring techniques, sanctions, and technological advances help make up this difference. A more robust theoretical approach would utilize principles relevant to any group attempting collective action.

One such factor underpinning collective action is the concept of trust. Members of a community make decisions in a more emotional way than pure cost-benefit analyses of material incentives. They can base their decisions on a sense of honor, pride, or even altruism toward their community. If people in a community have faith, or trust, that others will pay their fair share of an agreement, they may be more willing to reciprocate their share as well (Kahan 2003, 72). Rather than reinforce material incentives prominent in Olson's logic of collective action, scholars such as Dan Kahan have suggested that a sense of trust in communities promotes

collective action (Kahan 2003, 76). This factor is described as neither necessary nor sufficient, however, only that it makes enforcement and coercion *less* necessary.

The previous literature paves a way for Elinor Ostrom's solution to collective action problems in CPRs (Stern 2011, 230; Fleischman et. al 2014, 429; Shimada 2014, 225). Although Ostrom acknowledges that privatization and central regulation are useful tools for policymakers, her view on incentives structures begins with the local appropriator (the person extracting the resource) and this person's incentive to self-organize (Ostrom 1990, 14). Ostrom does not believe in a panacea for collective action problems, but rather, favors resource management projects that resource users develop themselves from the bottom up.

#### *Ostrom's Theoretical Design Principles*

Ostrom's (1990) work lays out eight theoretical design principles that support robust collective management systems (Ostrom 1990, 91; see also Fleischman et. al 2014, 429; Shimada 2014, 255). These design principles are clearly defined boundaries, congruence between appropriation and provision rules and local conditions, collective action arrangements, monitoring, graduated sanctions, conflict resolution mechanisms, minimal recognition of rights to organize, and nested enterprises (Ostrom 1990, 91). For now, it suffices to say that the nested enterprises principle means appropriation, provision, monitoring, enforcement, conflicts are organized in nested levels of governance structures (Ostrom 1990, 90; Fleischman et. al 2014, 442). As will become clear, the crux of this principle is a hierarchy of rules arranged in a coherent manner for local resource users. The nested enterprises principle is the focus of this research

PLACE TABLE 1 ABOUT HERE

Ostrom's eight principles are interconnected and satisfy five conditions of successful CPRs and collective action: first, the need to provide relevant information about a person's environment and fellow resource users; second, to resolve conflicts; third, to induce compliance with rules; fourth, to provide the necessary physical, technical and institutional structure; and finally, to encourage adaptation and change (Dietz, Ostrom, and Stern 2003). From these five conditions, collective action is much more likely to manifest. Nested enterprises are certainly necessary when one imagines that communities depend on a clear signal from institutions regarding acceptable behavior, and by what means resource users organize to affect change in their communities. When the rules of institutions are coherent between all the levels of governance, individuals feel confident in their ability to perform group functions.

The applicability of Ostrom's eight principles is questioned in cases where the international level of governance and large resource systems play a role (Kirkpatrick 2012; Cox et. al 2010). The issue of size and the number of actors extracting resources and affecting policy are the fundamental concerns. Large resource systems are intentionally excluded from Ostrom's seminal work. Ostrom's largest case study includes 15,000 appropriators. Her most successful example is much smaller (Ostrom 1990, 182). In addition to issues with larger resource systems, Ostrom frames her analysis to exclude international conflicts because each of her case studies operates within a single country. While Ostrom's principles could conceivably apply to collective action and the management of large resource systems such as marine fishing, this study is distinct in that it explores the impact of international law within the context of Ostrom's eighth principle—nested enterprises (Stern 2011, 213; Fleischman et. al 2014, 430).

#### *Ostrom's Rules, and Incorporating International Law*

A rule is any "prescription that forbids, permits, or requires some action or outcome and the

sanctions associated with failing to follow a rule” (Imperial 1999, 453). A rule may be formal, such as those enshrined in policy and/or law. It may also be an informal structure, such as a social norm. Ostrom organizes rules into a three-part hierarchy. The hierarchy consists of operational rules, collective-choice rules, and constitutional rules (Ostrom 1990, 52). Each type constitutes a category, but may operate at all levels of analysis. To analyze the impact of these rules on collective action, one must first understand the meaning of each rule.

Operational rules are the decisions local appropriators make for themselves on a day-to-day basis (Ostrom 1990, 52). Examples are again formal and informal, ranging from the constitution of a local association to the social roles people grant to members of their community. Collective choice rules influence those decisions of local appropriators by determining who is eligible to harvest the resource, and help define how operational-level rules may be formulated. Finally, constitutional rules influence the operational-level indirectly. They set overall standards and shape how collective-choice rules are made (Ostrom 1990, 52). Governing bodies can thus operate at multiple levels of rules and decision-making. For example, the national mandates of a state are constitutional rules, but its actual policy may vary across regional administrative units. The subtle changes that regional authorities make to national policy would be considered the collective choice rules.

Ostrom had no reason to discuss international law as a part of constitutional rules, yet it is possible to do so. Large resource systems such as marine fisheries clearly transcend state borders, and international law seeks to establish norms and values surrounding human rights and self-determination that influence states’ behavior on a wide scale. However, the influence of international law on state behavior—let alone a local community’s collective behavior—is questionable as its norms and values are non-enforceable. States remain the “central authority

with the ability to make and enforce laws, rules, and decisions within its territory” (Frieden, Lake, and Schultz 2010, 44); the ability to coerce its citizens into compliance with laws can be referred to as “hard power.” International laws must rely on soft power, meaning the ability to change behavior through normative appeal or “attraction” (see Nye 2004 for further description of soft power). These laws are persuasive in that other states adhere to these values, and could publicly shame or change policies away from that state’s interests. Although international law is non-enforceable, considerable costs may accrue to states that break it.

International law can support a group or community’s cooperation efforts, and thus, indirectly influence operational rules as constitutional rules do. International treaties, for example, are formal or written laws that instill shared values and norms of conduct throughout society and the global community (Ritter and Conrad 2014, 7). Because a state must confront the soft power of international law, making a commitment to that law may cost states more than their signature. If states commit to these laws, they in turn may signal what issues they will be flexible on with their citizens. Clear perceptions of what norms the state supports can inspire confidence among its citizens to self-organize because they better understand what collective behaviors the state tolerates. Their clear perceptions lead to strong expectations, and confident decisions by consequence. Thus, it is fair to conceptualize these laws as constitutional rules as they are governance arrangements that can indirectly affect the operational level.

From the perspective of this study, international law and national policy both involve constitutional rules. The regional authorities and local communities produce collective choice and operational rules respectively. There may indeed be several other ways to conceptualize the placement of international law within or around Ostrom’s rules. One can see international law as the constitutional rule, for example, and the state’s national policy as a collective choice rule.



Doing so then makes it unclear what regional authorities and local communities constitute. The fact is that any given rule at any given level of analysis (national, regional, or local; constitutional, collective choice, or operational; etc.) may be seen as part of an entirely different set of rules depending on the perspective of the person considering the problem (Imperial 1990, 455). Within a local legislature, for example, you may have constitutional rules that inform procedure, collective choice rules within its committees, and day-to-day social norms that structure interactions between individual representatives. Although the legislature is local and may be seen as creating operational rules, it comes with its own set of constitutional, collective choice, and operational rules. Such is the nature of nestedness.

### *Nested Enterprises*

The application of Ostrom's design principles to large resource systems push the final principle to greater importance. Ostrom (1990) states that the nested enterprises principle means "appropriation, provision, monitoring, enforcement, conflicts resolution, and governance activities are organized into nested enterprises" (Ostrom 1990, 90). When Ostrom says nested enterprises, she is referring to operational, collective choice, and constitutional rules that structure the relationships between various organizations at various levels of analysis. This structure must also be coherent in that the rules agree, and are complete. To that end, Ostrom states that "establishing rules at one level, without rules at the other levels, will produce an incomplete system" that may fail to endure in the long-term (Ostrom 1990, 102). It is not the case that rules within a group—a community, for example—must agree with those of another group or governing body above it. The constitutional rules that underpin the basic arrangement between two groups must agree. These arrangements may be horizontal, such as between communities. They may also be vertical, such as between a community and a governing body

above it (Cox et. al 2010). This latter arrangement has been focused on by scholars ranging from Tracy Yandle (2006) to Fikret Berkes (2002), and is certainly the primary focus in this study as well. This further exploration builds on an understanding that Ostrom is referring to a hierarchy of governance levels (see Ostrom 1990, 102).

Mark Imperial summarizes that when processes are “nested” vertically into respective levels, they are organized in particular ways. The appropriation, provision, monitoring, and enforcement of particular shared use of CPRs take place at the operational level. Activities such as policymaking, management, and the “adjudication of decisions” take place at the collective choice level, and overall governance and the establishment of guiding standards occurs at the constitutional level (Imperial 1990, 455).

If rules or laws provide appropriators with a level of certainty about their environment and the benefits of collective action as Ostrom says, then it follows that a nest of operational, collective choice, and constitutional rules should build upon that certainty and therefore make collective action more likely (Ostrom 1990, 52). The nested enterprises principle is necessary for collective action because it helps provide two conditions from which it may develop. First, nestedness structures the physical, technical, and institutional infrastructure in which communities organize. Secondly, a coherent layering of rules can send a strong signal to resource users encouraging adaptation and change within a CPR system (Ostrom et. al 2003).

Although Ostrom recognizes the value of governance arrangements between national, regional, and local actors, a more robust analysis must include international governance arrangements as large resource systems often stretch across state borders (see Stern 2011; Fleischman et. al 2014). The efforts to assess the applicability of Ostrom’s principles in large-scale systems and international contexts are recent. This assessment thus far demonstrates mixed

yet promising results in regards to nested enterprises. Fleischman et. al (2014) have published an article that assess to what extent Ostrom's design principles were an important part of the success or failure of five cases. These cases are the "global regulation of ozone-depleting substances in the Montreal Protocol...; management of Atlantic Bluefin tuna, an ocean fishery...; mitigation of trans-boundary water pollution in the Rhine region...; national forest management in Indonesia..., and; a regional marine protected area network, the Great Barrier Reef, Australia." (Fleischman et. al 2014, 430). Fleischman et. al have acknowledged that the nested enterprises principle is expected to play a significant role in successfully managing large-scale resource systems (Fleischman et. al 2014, 442).

These cases place Ostrom's design principles in the international arena, and under international regulatory bodies. The Montreal Protocol is an international treaty, for example, and the International Commission for the Protection of the Rhine (ICPR), the European Union (also nested in the Rhine case), and the International Commission on the Conservation of Atlantic Tuna (ICCAT) are all international regulatory frameworks of CPRs as well. Fleischman et. al (2014) argue the nested enterprises principle is important for the success of large-scale resource systems, but with inconsistent results (Fleischman et. al 2014, 450-451). Nested enterprises appear to contribute to success in the Rhine River and Great Barrier Reef case studies.<sup>5</sup> The least successful cases, the ICCAT and Indonesian forests, both lacked evidence of nested enterprises (Fleishman 2014, 448), perhaps indicating the principle is necessary but insufficient at the international arena.

### *A Broken Nest*

Ostrom (1990) states that scholars analyzing cases at the operational level must assume that institutions are known and unchanging, but admits such rules are subject to change (Ostrom

1990, 50). This explorative study contends that when rules underpinning governance arrangements contradict each other, they lower an individual's confidence about the impact of his or her community's collective action. This study will refer to this phenomenon as a "broken nest."

The term "broken nest" refers to various conflicts between levels of governance, so long as the cause of conflict is a contradiction of two or more of Ostrom's rules. This problem is not merely an absence of the nested enterprises principle, but rather, the presence of a dysfunctional one. Regional governments might perform services that overlap or contradict national policy, and local norms might even disagree with the regional authority's jurisdiction to make policy. Likewise, a state could pass a law that international entities such as the UN or ICJ have already ruled against. Doing so sends mixed signals to those to whom the law applies, thereby inhibiting their ability to collectively organize. The degree of brokenness could depend on how many rules contradict each other, and thus affects the level of collective action with varying degrees of severity. Such investigation of possible *degrees* of collective action, however, is beyond the scope of this study.

#### FIGURE 1 ABOUT HERE

A broken nest threatens current and future collective action of a resource community. In the same way that a nest of rules should inspire the confidence needed to collectively organize, a broken nest should promote confusion and sense of fear. For example, if a fisherman is met with a law saying "organize," and another saying "do not organize or you will be punished," then the fisherman takes an additional risk when choosing one over the other to organize. This confusion is another cost in an individual's cost-benefit analysis of initiating and engaging in collective action. The fear of state repression and of intimidation is assumed to be implicit to any

community's assessment of cost and risk.

### External Disturbances

External disturbances range from climate change to exogenous political or economic processes, and constitute any threat to a resource system beyond an appropriator's capacity to control or manage its resources (Fleischman et. al 2014, 455; York and Schoon 2011, 388). Most studies emphasize disturbances such as natural disasters and climate change (Fleischman et. al 2014, 430). Moreover, there has been an insufficient attempt to connect external disturbances to design principles. Daisaku Shimada's (2014) effort to explain how Japan's *iriai* forestry navigates a sometimes-hostile international market is a notable exception. Related terms include "external threats" and "reverberations." They are external hazards to an appropriator's bottom-up control of their environment.

I build upon current research that attempts to incorporate external disturbances with the application of Ostrom's design principles to large-scale resource systems (Stern 2011; Fleischman et. al 2014; Shimada 2014). While scholars such as Abigail York and Michael Schoon (2010) seek to measure how external disturbances influence collective action and Ostrom's design principles (Fleischman et. al 2014), it may also be the case that external disturbances occur because of a broken design principle. This study's examination, for example, concerns an external disturbance—the illegal fishing of foreign vessels—that is caused by a broken nest. The agreements that initiate such fishing are beyond the control of indigenous fishermen in the area.

The specific impact of external disturbances on collective action is unclear. Although a broken nest may initially undermine collective activity, external disturbances may also unite local appropriators, as they did when York and Schoon (2010) examined the collective action of

cattle herders on the western range. Fleischman and his colleagues have also suggested external disturbances influence nationalistic aspirations to preserve resources (Fleischman et. al 2014, 446). Likewise, resource communities may monitor their environment to protect themselves from external threats.

### *The Overall Theory*

If resource appropriators face a broken nest caused by disconnect between national and international laws, they must comply with one, resist the other, or flee. While the latter is an attempt to escape a governing body's reach, compliance and resistance can take the form of collective action within a community. Whether individuals comply or resist, their collective action may include efforts to restrain their extraction over time, or to maximize the economic and social well-being of the community as a whole. Communities may form protests to claim rights or resources. They may form associations to improve their community's economic or social standing. They might even assign community members positions to monitor potentially illegal behavior—including that of regulators. Where protesting as a form of resistance, communities may take their grievances to a sympathetic party such as the UN and or a nongovernmental organization (NGO). Thus, all three functions of group behavior—efficiency functions, claims functions, and equity functions, as mentioned on page 5 when discussing NIE—are potentially relevant characterizations of an artisanal fishing community's behavior.

Ceterus paribus, this thesis theorizes that a broken nest hurts collective action by creating an external disturbance, which sends mixed signals to the local populace, thereby causing resource appropriators to collectively organize less than they would do otherwise. Likewise, nested enterprise compatibly coupled with international law benefits the current, and promotes the future, collective action of an artisanal fishing community. Any community's basic belief that

collective action will create a collective benefit is a byproduct of their community's particular form (size and trust among members), and the nested organizational structures that surround them. A fishing community's likelihood of demonstrating collective action is a result of the community's belief in the benefits of such action.

This study expects an external disturbance to diminish incentives for fishermen to organize when they stem from a broken design principle. The offshore fishing of industrial ships clearly extracts a much larger portion of total catch than the artisanal fisherman's six-meter canoe. The incentive to organize in a way that sustains the industry or the wellbeing of the community is thus drastically less because the benefit of doing so is negligible. If all the fish will be gone tomorrow, the costs to stop fishing today are too high to consider. Certainly offshore fishing is extensive throughout several states, but in the case of an occupied territory, for instance, its presence also doubles as a signal to artisanal fishermen that the majority of the international community is reluctant to uphold international law. Thus, the term means more than a new label for an old problem.

What about protests? If a community were in a territory disputed by international and national law, wouldn't fishing communities organize protests or pleas to a sympathetic party such as an NGO in order to voice their position? In this thesis, it is argued this is unlikely, and in fact, *less* likely within these specific communities. The reasons for this are threefold. First, artisanal fishermen likely fish for subsistence, and are therefore unable to commit the same resources as other members of society. Second, many fishermen living in the disputed zone may in fact be quite loyal to the regime.<sup>6</sup> Finally, the likelihood of the state repressing such dissent is much higher in disputed territories because leaders seek to maintain power.

State repression is an example of a negative response, used to “deter or eliminate dissent” (Ritter and Conrad 2013, 3). Rather than choose to organize, fishermen would instead choose to stay home if there is a high expectation that their rights will be violated. The fear of repression is logically much higher in locales where international law is in conflict with the national law, given that leaders desire to remain in power, and that such leaders have already decided to break international law to occupy the region.

In summary, international law may be incorporated into Ostrom’s nested enterprises principle as a constitutional rule. This paper theorizes, as Ostrom similarly argues, that nested enterprises are a necessary but insufficient condition for facilitating successful collective action. Fishing communities living within a broken nest, for example, will organize less than their nested counterparts. This is because broken nest sends mixed signals to local appropriators, and leads to external disturbances that further disincentivize collective organization.<sup>7</sup>

*Hypothesis 1: A city’s artisanal fishermen protest and plea to international organizations less if they fish from a broken nest.*

*Hypothesis 2: A city’s artisanal fishermen participate in communal activities less if they fish from a broken nest.<sup>8</sup>*

*Hypothesis 3: A city’s artisanal fishermen collectively monitor or interact with others in their community to control fishing less if they do so from a broken nest.*

*Overall Prediction: All three group functions—efficiency functions, claims functions, and equity functions—are more common in Agadir, Morocco, than in either Dakhla or Laayoune, Western Sahara.*



## Methodology

My research contains a comparative analysis of cases of nested enterprises. It sought to identify differences between three cases of collective action. I attempted to test three hypotheses and remained open to new ones given the multifaceted and yet uncharted nature of the cases. The fishing industry is only an example to see why fishermen function as they do in their community in terms of collective action, and not necessarily just how they manage their resources.

Comparative analysis helps restructure complex realities into comprehensible frameworks (Alford, Brown, and Letts 2004, 264). Case description assists in uncovering unexpected patterns. The fact that in-depth case studies generate a wealth of information creates others problems, especially when trying to draw clear conclusions.

This comparative analysis of fishing industry in northern Africa follows a most similar systems (MSS) design (Przeworski and Teune 1970). Cases are chosen on the independent variables in an MSS design in that it controls for as many variables as possible in order to test the impact of one on the dependent variable. In this study, cases are similar in all but one distinct area—status under international law. Due to the focus on international law in nested enterprises, this thesis looked for cases that differed in as little as possible to test the impact that one variable has on collective action. The Western Sahara and Morocco share similar history, Arabic language, and religion; they fish the same sea, pursue similar fish stock, and operate under the same monarchy and rule of law.<sup>9</sup> The predominant difference, prior to conducting field research, is their status under international law, fitting ideally into a MSS design.

### TABLE 2 ABOUT HERE

While close to ideal, some issues remain. It is difficult to confirm the exact size of the

communities in these cases due to the high number of undocumented workers. The official size of Laayoune and Dakhla's artisanal fishing communities remain difficult to determine. Ethno-cultural differences might also analytically be a concern as Western Saharans are working alongside vast native Moroccan majorities in the south; certain documents illustrate that Sahrawis, in Dakhla at least, constitute only about 3-4% of the actual labor force of artisanal fishing.<sup>10</sup> This analysis highlights group activity conducted along ethnic lines, as ethnicity and culture are possibly mechanisms of collective action.<sup>11</sup> The analysis of much smaller fishing villages north of Agadir, Taghazout and Imswan, analytically controls through research design for group size.

Counter arguments may assert this analysis is too reductionist in its emphasis on the nested enterprises principle. Emphasizing a single difference in nestedness leaves out a complexity Ostrom had likely intended in 1990, and later elaborated on in 2003 (Dietz, Ostrom, and Stern 2003). Reducing Ostrom's principles to a synergy between constitutional, collective choice, and operational rules, however, may help expand Ostrom's work to the international arena.

This study makes use of personal interviews with approximately 70 people. Several published, unpublished, and confidential documents were also obtained in addition to these interviews.<sup>12</sup> Identifiers will thus be kept to a minimum to respect the integrity and safety of the interviewees and authors of these documents. Interviews with about 54 people were held with artisanal fishermen working in the region of Souss to which Agadir belongs. Many of these fishermen had also worked in Laayoune and Dakhla in the southern region of Morocco's four administrative units. Interviews with local officials include members of Agadir's delegation of maritime fishing, the APP office, and the chamber of fishing, as well as community organizers such as the heads of a prominent association in Agadir, the leaders of Agadir's only cooperative

(COPMAS) and the elected representative of Agadir's artisanal fishermen.<sup>13</sup> Likewise, the author conducted participatory observation when he and his translator attended a meeting of an association in Agadir. Most of the interviews were conducted in either Arabic or French.<sup>14</sup>

Interviews were also conducted with experts familiar with the fishing industry and the Western Sahara issue as referred to earlier, including an accountant of fishermen in Tan Tan, Morocco, ex-employees for fisheries in Agadir and Imswan, Morocco, two lawyers, and a Sahrawi fishermen located in Brussels, Belgium. One such lawyer works at Smith and Partners LLP, and an expert on the legal issues regarding Western Sahara and East Timor who has worked with the Western Sahara's government in exile.<sup>15</sup>

Methodologically, this thesis' reliance on interviews—with all conducted outside the Western Sahara—opens a door to personal biases of multiple observers. The interviews conducted in Morocco (with about 70 individuals overall) account for a small sample of the thousands of fishermen. Limitations due to time constraints and the challenge of gaining government permission to do field research in the Western Sahara, were present.

### **Empirical Analysis**

Dakhla, Western Sahara, and Laayoune, Western Sahara, and Agadir, Morocco are the three cases analyzed in this study. This section begins by describing these three cases as well as the overall structure of Morocco's fishing industry. Description of the industry's condition is provided next, an account drawn mostly from an interview done with the artisanal fishing sector's Representative for a sub-region in which Agadir is situated. The prevalence and nature of protests, communal activities, and locally organized monitoring across the three cases is then examined. They embody the three group functions: (1) equity functions, (2) claims functions, (3) and efficiency functions. These case specific discussions highlight collective action and,

when applicable, factors that inhibited and promoted it. Finally, group size is considered as a possible confounding variable. Two fisheries in Taghazout and Imswan, Morocco, are utilized to compare results with Agadir.

INSERT MAP 1 HERE<sup>16</sup>

### The Cases

To assess the role of international law in collective action in large resource systems, this study addresses ocean-fishing industries, and investigates the artisanal fishing sector in Morocco and the Western Sahara. This industry is infamous for non-cooperative behavior (Jackson et. al 2001). Morocco and Western Sahara are relatively understudied cases. Scholars should consider their potential to answer why fishermen behave as they do in their particular communities.

Morocco and Western Sahara possess similar geography, language, history, and government administration. The major linguistic similarity is Arabic, the caveat being that Sahrawis speak a Hassānīya dialect and Moroccans speak the Arabic dialect of Darija (Mundy 2012, 109). They differ in that paragraph 162 of the ICJ's 1975 advisory opinion states there is no evidence that Morocco's territorial claim to the Western Sahara is legitimate.<sup>17</sup> On the other hand, the Moroccan government considers its "Southern Provinces" vital pieces of its pre-colonial history and claim sovereignty over them (Mundy 2012, 96; Zoubir 2007, 162). This analysis takes no position on this issue. Instead, it takes advantage analytically of this variation in international law to assess collective action in artisanal fishing. The context provided is notably incomplete for the sake of later analysis. It is simply included to provide sufficient context to readers. Context surrounding these cases are broken down into discussions of the land; the conflict; the law; the government, both de jure and de facto; the international law surrounding these cases; and ends with a visual.

The Western Sahara is located south of Morocco, west of Algeria, and north of Mauritania. The territory extends more than 1000 kilometers along Africa's northwestern Atlantic coastline. It was subject to Spanish colonial rule from 1884 to 1976 (Milano 2007, 3). Prior to that, control of the territory under Moroccan rule dates back to the Amazigh-Almoravid Empire during the 11<sup>th</sup> Century. Fishing is rich from Tangier to Lagouira on Cape Blanc due to a sustained east central Atlantic upwelling (Belhabib et. al 2013, 23).<sup>18</sup> Over 700 kilometers of this coastline boasts a natural wealth that Morocco and other nations, including European Union (EU) member states, currently exploit (Zoubir 2007, 158).

International pressures for Saharawi self-determination grew following Spain's decolonization, which ended in 1975 (Zoubir 2007, 158). Morocco technically supported Saharawi's right to self-determination through 1974. After that it changed policy to secure the region. Morocco claimed "legal ties" to the territory, and presented its case to the ICJ (International Court of Justice 1975).<sup>19</sup> Morocco based its legal claims on allegiances pledged by certain Saharawi tribal leaders to Morocco's Sultan in the late 1800s. The ICJ ruled against Morocco in 1975 (Mundy 2012, 96).<sup>20</sup> Spain consequentially pulled out on February 27, 1976, and the region's dominant political party, *Frente Popular de Liberacion de Saguia el Hamra y Rio de Oro* (POLISARIO), declared the Saharawi Arab Democratic Republic's (SADR) sovereignty the following day.

Spain undermined the ICJ's advisory opinion through the Madrid Accords signed with Morocco and Mauritania on November 14, 1975. The agreement distributed the Western Sahara to both countries, partly to preserve Spain's fishing rights. Although Mauritania conceded its claims under international pressure, Morocco's King Hassan II had already ordered a Moroccan occupation effort known as "The Green March" on November 6, 1975. In doing so, 350,000

Moroccans entered the territory for the “repossession of its southern provinces” (Zoubir 2007, 161).<sup>21</sup>

This conflict remains ongoing and troublesome for the indigenous population. Reduced taxes, subsidies, social projects, and housing programs are designed to attract Moroccans from major cities and to migrate towards Western Sahara’s resource rich-coastline (Milano 2007, 11). Under Moroccan policy, workers are exempt from income and value-added taxes, receive fuel subsidies, and are paid wages 85-percent more than their counterparts up north (U.S. State Department 2011). Most inhabitants of Western Sahara are now Moroccan settlers who benefit from, and thus endorse Morocco’s control of the area (Haugen 2007, 76).

Settlers find attractive employment opportunities in the growing fisheries, so indigenous Western Saharans face heightened competition for employment (Milano 2007, 11). From the early 1990s to the early 2000s, fish landings in Western Sahara recorded an astounding growth rate of 243% in tonnage, 653% in terms of monetary value, and a dramatic development in artisanal fishing—at least 8,000 vessels in the south by 2002.<sup>22</sup> Confidential documents and interviewees for this research argue they have benefitted little from this expansion, in large part because they are intentionally excluded from the fishing industry. A press release and email provided to the author by the Sahrawi fisherman indicates Sahrawis are limited to about 4-5% of all operations in the entire fishing industry.<sup>23</sup>

Morocco is the only state to officially support its claim to sovereignty over Western Sahara, putting its administration in the area at odds with international opinion (Stevenson 2014). According to the ICJ 1975 ruling, the region is under *de jure* Spanish administrative control, meaning the region legally belongs to Spain until the Sahrawis achieve self-determination. This is the legal status despite the fact that Spain had signed the Madrid accords, and informed the UN

that it relieved itself of all responsibility as an administrative power on 26 February 1976 (Martin-Pinillos 2007). The United Nations maintain that neither Spain's statement nor the Madrid Accords are legally sound, and that Spain is still bound by Article 73 of the UN charter which deals with self-determination and the responsibilities of Administrative Powers (United Nations 1945). The UN considers the Western Sahara a "non-self-governing territory," and through resolutions it has maintained that indigenous peoples have sole ownership over their natural resources (Haugen 2007, 77; Zoubir 2007, 159).

Indigenous fishermen may claim their rights to harvest the fishing grounds through both Resolution III of the UN Conference and the Law of the Seas. This law grants rights to artisanal fishermen to fish for their subsistence and development purposes. The UN further considers fishing a human right for the same reasons (Haugen 2007, 77). Western Saharan fishermen who claim rights to this natural resource may thus base their claims upon multiple international laws and human rights (Haugen 2007, 80).

While sympathetic to Morocco's occupation, Spain ironically preserves its *de jure* status as the administrative power over the Western Sahara. Morocco and Spain are aware that Western Sahara's fisheries and phosphates are a lucrative resource with strong economic potential. The Kingdom of Morocco is thus seizing settlement and development opportunities. Morocco is Africa's largest fish exporter, and is continuing to expand its activities in Western Sahara's waters off of Laayoune and Dakhla (Milano 2007, 8). These two Western Saharan cities have landed almost 70 percent of Moroccan catches at times, of which Laayoune alone constitutes 38.6 percent of national production of fish in 2004; associations in Dakhla have also claimed as recent as 2013 that Dakhla carried 64% of the national production, showing that both cities are major assets to Morocco's fishing industry (Haugen 2007, 75).<sup>24</sup> Morocco negotiates

international fishing agreements extending into Western Sahara's waters in order to capitalize on the region's wealth. However, the Saharawi people are excluded from negotiations, which more recently include Fishing Partnership Agreements (FPAs) between Morocco and the European Union. In 2011, Denmark, Sweden, and the United Kingdom opposed the agreement. This caused the agreement to be discontinued until 2013 (Mulazzani 2015, 9). It went into full force on 15 July 2014 (N.a.. 2014). The renewed agreement helped member states sign because it neither excludes nor includes the waters of the Western Sahara. Sweden still cast a negative vote for the agreement. Finland abstained and issued a separate statement with the Netherlands (Milano 2006, 428).

Figure 2, Table 3, and Table 4 About Here

### Structure of the Industry

Although King Mohammed VI governs the Kingdom of Morocco, the Ministry of Agriculture and Fishing (henceforth referred to as the Ministry) and The National Institute of Marine Research formulate national fishing policy. The Ministry dictates what becomes a national policy. The national policy is handed down to four major administrative regions, and implemented by cities with a municipal delegation. Morocco's fishing industry is subdivided into these four regions, listed north to south: the Mediterranean, from the city Essaida to Larache; the North, from Kenitra to Souira Kedima; the Middle (Souss), from Imswan to Tan Tan; and the South, from south of Tan Tan to Lagouira.<sup>25 26</sup> The major administrative cities of fishing in each region are respectively Tangier, Casablanca, Agadir, and Dakhla. The Ministry's national policy is implemented by its municipal delegations (henceforth referred to as "the delegation") of these regions. National policy is uniform, but some administrative emphasis on the laws varies. Colonial laws dating back to 1919 are technically still on Morocco's books.



They are, however, rarely enforced as authorities quietly recognize the laws are out of date.<sup>27</sup>

The Ministry's municipal delegation is part of a larger Moroccan bureaucracy present at port cities. Other offices run by the central government include the National Office of Fishing (ONP), which keeps track of landings and manages the fish market, the National Agency of Fishing (ANP), responsible for the port's infrastructure, the office of the National Social Security Fund (CNSS), which has recently begun to help fishermen obtain healthcare and retirement benefits, and the Chamber of Fishing, sometimes referred to as the federation of fishing.<sup>28</sup> While the first three serve logistical functions to coordinate day-to-day functions at the port, the latter is most significant regarding collective action by artisanal fishermen.

The Chamber of Fishing is the public lobby of the regions and, since 1998, the industry's only public body that elects representatives from the industry's three sectors of fishing. It is staffed by hired bureaucrats as well, and may be technically considered part of the state structure. As shown in Figure 2, the industry's three sectors of fishing are artisanal fishing, coastal fishing, and high seas fishing. The number of representatives depends on the number of its sub-regions, but each sub-region elects three people to represent their sector. Only boat owners who belong to the artisanal sector nominate and vote for that sector's candidates. Elections are held every six years. The representatives then form a regional cabinet, choosing the president, vice president, treasurer, vice treasurer, secretary, and vice secretary.<sup>29</sup>

The cabinet works pro-bono with the Chamber's government-paid bureaucrats to draft proposals and to help the delegation implement the national policies.<sup>30</sup> For example, representatives are expected to help explain incoming policies to their constituents. By contrast, representatives are unable to publically oppose incoming policy or impose any sanctions.<sup>31</sup> Although the Chamber puts pressure on the Ministry to protect fishermen's rights and practices,

it possesses no decision-making power. One bureaucrat argued further that the Ministry sometimes used the Chamber as a scapegoat when its policies failed.

The formal organizations of civil society are associations, cooperatives, and unions. All of these groups must meet with municipal officials in order to present their organization's goals and obtain approval to organize. They are quasi-private, meaning those that operate are approved by the state, and may serve some function, such as documenting workers, that the state needs done anyway. The leaders of these groups are elected by their members, and form cabinets similar to those in the Chamber of Fishing.<sup>32</sup>

The union is the only organization legally capable of defending its members in court, and of making general requests such as improved wages, rights, work hours, and benefits. The cooperative's main function is to facilitate the legal process of providing its members with the necessary legal documentation to work in the industry.<sup>33</sup> They may also manage facilities—usually provided by groups such as the Millennium Challenge Corporation—to store equipment and sell their product in a legal marketplace. In some cases, cooperatives may collect money to purchase necessary equipment for their community and represent its members when complaints over things such as funding must be filed with the state. By contrast, the association is a group of fishermen who pool their resources to support each other financially and socially. Sometimes they organize feasts, or even sacrifices of cows to Allah, when the fishing is poor, and at times write letters to voice a concern with the government.<sup>34</sup> The government must approve all three organizations before they can operate legally, and only unions may seek general requests that would indirectly benefit non-members.<sup>35</sup>

Scholars know little about the exact state of Morocco's fishing industry because so little is reported. The artisanal fishing sector lacks any data collection system, and over 41.5 percent of

all of Morocco's catches go unreported (Belhabib et.,al 2013, 23). I draw primarily from two sources. First, my interview done with the elected representative of Agadir illustrates most of the industry's history. Second, Dyhia Belhabib et. al's 2013 reconstruction of Morocco's marine catches for 1950-2010 is used to compare and supplement the statements of the representative.

### *Condition of the Industry and its Fishermen*

Fishing in Morocco and the Western Sahara is not nearly as good as it used to be. Recent estimates of catches nearly double the reports put out by the Food and Drug Administration of the United Nations (FAO). The catch per unit of effort (CPUE) has decreased by 58.29 percent between 1981-2010, indicating severe overexploitation.<sup>36</sup> My interview with the representative indicates the decline began in the 70s.<sup>37</sup> Belhabib et. al's analysis concurs as offshore industrial fishing had begun in 1972 and continues to grow fast (Belhabib et. al 2013, 24). Both sources then indicate incredible growth in the 1980s. Belhabib, et. al contend that Morocco had issued an "encouragement code" along with subsidies in the 1970s to encourage fishing (Belhabib et. al 2013, 33). The representative's statement fits that argument, saying the total number of fishing licenses had tripled by around the late 70s and 80s.<sup>38</sup>

This industry consists largely of freezer trawlers with the capacity to fish for weeks at a time (Belhabib et. al 2013, 24). There are three types of trawlers in the industry: one type for shrimp, one for octopus, and one that can fish several types yet with a quota.<sup>39</sup> The trawlers exploit vast amounts of the resource, yet certain other factors also exacerbate overfishing. Belhabib et. al, for instance, cite an obsession with short term profits, high discard rates, habitat loss (from trawling), foreign fishing, and rising illegal, unreported, and unregulated fisheries (Belbhabib et. al 2013, 24). They suggest Morocco's lack of monitoring and enforcements are to blame.

The representative of Agadir's artisanal fishermen took this point further in my interview. The licensing system was a diversified system in that the level of intensity one could fish a certain species would rotate with the season up until the 1980s. "Now they fish every day, every night" because people within the Ministry used the industry as a trading piece with the Europeans, Japanese, and the Russians.<sup>40</sup> The 1980s also ushered in the current mandate of specification, meaning boats only focused on landing certain species of value such as cephalopods. Boats then continued to increase their dumping of less valuable fish by the tons. Estimates of discard rates sit at 45 percent in industrial fishing, and 19 percent among artisanal fishermen (Belhabib et. al 2013, 27). However, the point of the representative that hits home most is the problems being faced are well known, and nobody is learning from their mistakes.<sup>41</sup>

As treaties continue to accumulate, the ministry takes efforts to restrain artisanal fishermen. This effort is easier said than done. Fisheries support the livelihoods of approximately 400,000 people in impoverished areas who are likely dependent on that resource for subsistence.<sup>42</sup> About 20 percent of Sahrawis, for example, suffer from a lack of protein and live in poverty (Belhabib et. al 2013, 24). By the 1990s approximately 12,000 vessels have been operating illegally within this region alone. The financial struggles of artisanal fishermen overall have continued to increase since the 1950s and 1960s as large families faced a rise in the cost of living.<sup>43</sup> More recently, the costs of equipment have drastically increased fourfold in the last 20 years, and nets that can cost thousands of dollars may be destroyed in a day. The central government has stripped the community of its subsidies, and now imposes a value added tax (TVA). Thus, the condition of the industry is worsening along with the condition of the artisanal fishermen.

#### Table 5 & 6 About Here

Table 5 lists the grievances of artisanal fishermen, drawing mostly from the Agadir case. Not

every grievance induces collective action, and some grievances such as “Low Healthcare/Retirement Benefits,” “Taxes,” and “Poverty” may be aggregated into general financial struggles. It is also the case that grievances may inhibit collective action, as they raise the individual cost of organizing, and yet some may have no real impact. Some grievances are also specific to the Western Sahara cases. They include “Racism,” “Killing of Dolphins,” and “Exclusion from Employment.” Being near a military base is further specific to Laayoune, and thus not included on the table.

Table 6 measures collective action as high, medium, and low. These measurements are relative to each other, meaning Dakhla is ranked “high” because it demonstrates the most collective action. I measure collective action based on how many forms of protests, communal activities, and self-organized monitoring are present in my interviews. Ideally this study would rank the degree of collective action by factoring whether a particular form is enduring, or how many fishermen participate. The nature of my field research depends predominantly on a snapshot of the industry. To that effect there is not enough data on the Western Saharan cases. The table indicates what I believe to be enduring to this day. Dakhla ranks the highest because there are more forms of collective action identified, and performs the most group functions as framed in the hypotheses. Dakhla appears to produce group functions via protests, collective activities, and monitoring. The Black Market is a form of collective action, but was not framed by the hypotheses and so did not receive considerable attention.<sup>44</sup> It is included in the tables to identify a possible point for future research.

It may be the case that Laayoune ranks higher than Dakhla, as mini strikes appear to be enduring there. It also appears that these strikes involve the larger community in Laayoune. However, there is also a likelihood that rallies and associations are still enduring in Dakhla in

some form, and may even involve the larger community. That discussion is premature at this point.

What is clear is that Agadir demonstrates by far the least collective action. The Western Sahara cases are shadow cases of Agadir by comparison. The wealth of data on Agadir far surpasses the other cities. Yet, still, Agadir fails to demonstrate any real substantive collective action when compared to Dakhla and Laayoune. The associations in Agadir are nominal, serving mostly the interests of their leaders. The Black Market is present, but even that is slowly decreasing as new laws make it riskier for poorer fishermen to participate.<sup>45</sup>

### Agadir

#### *Protests*

Protests refer to rallies, labor strikes, and letters written by groups to public officials and sympathetic NGOs such as Western Sahara Resource Watch (WSRW). Protests regarding fishing explicitly pertain to the fishing industry or the rights of the fishermen. Pro-independence demonstrations are excluded from the analysis, as they are a much bigger and different issue. Citizens engaging in protest weigh the expectation of success with the possibility of facing failure or, worse, state repression. Repression is the state's most severe sanctioning tool to eliminate dissent (Conrad and Ritter 2014, 3). Likewise, citizens may protest because of state repression. Some cases of sanctions may backfire and cause an unintended response from the public. Although it is reasoned that a violation of international law lowers confidence for protest in the context of resource systems, such laws may in fact inspire people to reach out to third parties.

The Moroccan constitution permits freedom of association "within the limits of the law." Demonstrators must obtain prior administrative approval (U.S. Department of State 2011). Since

Moroccan labor law applies to Western Sahara, collective action includes the right to strike and reach collective bargaining agreements. De facto, the government has frequently used administrative delays and repression to suppress or discourage demonstrations in the Western Sahara (U.S. Department of State 2011).

The consensus of the forty-six artisanal fishermen interviewed in Agadir was that strikes and other forms of organized protest never occurred in their community. All forty-six artisanal fishermen asked about this issue stated that protests in the other two sectors of fishing were rare and had even been declining over the last ten years. Incentives to turn grievances into protest were unexpectedly absent in Agadir. Grievances, however, do exist. Discontent did not translate into action because fishermen are scared of being repressed, and are dependent on the resource as many poor and already fish without documentation. Grievances and incentives to protest were mostly individual economic hardships/lack of documentation, new laws, and the support of other sectors.

It is worth noting, briefly, that Fishing Partnership Agreements were never mentioned as sources of outrage among artisanal fishermen. Among the twenty fishermen asked specifically about Fishing Partnership Agreements with foreign countries, seven believed them to be good (citing employment opportunities), eight believed they were bad (citing fishing techniques that killed fish eggs), and five did not care that they existed.<sup>46</sup>

In terms of incentives to protest, “these boats are the boats of death,” exclaimed a fisherman in reference to his canoe, explaining why he might choose to do so.<sup>47</sup> A lack of guaranteed rights, low income, poor government aid, rampant corruption of officials and other fishermen within the community, and fishing techniques of larger boats (not necessarily foreign) were all day-to-day grievances that incentivize protest. Some association officials even cited Morocco’s

outdated colonial laws of 1919.<sup>48</sup> The common themes throughout all these issues were their immediate, generally financial, impact on the community. Laws and taxes threatened current practices and income, corruption and lack of government aid hurt social mobility as well as the ability to initiate sanctions, and a lack of rights meant lack of benefits and again their ability to voice grievances calling for sanctions.

As an example, a storm in 2010 caused the coastal and high seas vessels in Agadir to come loose from their ties. Hundreds of artisanal vessels were demolished as they floated amok in the harbor. Fishermen watched helplessly from the quay as the news media captured the situation on cameras.<sup>49</sup> This is one of the few instances when the port was on the brink of protest. If not for the King's, Muhammed VI, decision to absorb the costs and purchase new vessels, it is likely protest would have occurred. Collective action appear motivated only by extreme situations in Agadir.<sup>50</sup>

An artisanal fisherman's *individual* financial well-being is his overwhelming source of outrage. If protests occur in Agadir, they likely stem from financial troubles. In 2009, for example, the Moroccan government issued a new set of national laws to help track landings more efficiently to meet European standards and practices.<sup>51</sup> The new law also provided healthcare and retirement programs that went into effect in 2013. These benefits, however, were coupled with additional taxes to pay for them. Such taxes accounted for approximately eight percent of fishermen's income, and have increased to about fifteen percent.<sup>52</sup> The opinions of fishermen about these new laws were thus mixed.

An employee at the National Office of Fishing (ONP) stated the new law adds immediate complications for fishermen. Before the law in 2009, a single person could finance a number of boats to catch fish. The boat owner hiring fishermen guaranteed purchases of fish at set prices.



The law imposed a new bidding process that takes longer and cannot guarantee a higher price.<sup>53</sup> Prior to this, the government had also built a new market for the selling of fish (constructed between 2004-2007) that opens later than its predecessor. Fishermen argued that these new laws and market demanded more work for less pay. The new law came with new procedures and tasks asked of fishermen, and prices were generally lower because a later opening time lowered the quality of fish at market.<sup>54</sup> The lack of reliable equipment to preserve the fish until opening time is thus another contributing factor. Some fishermen held strikes and even stormed the office to meet with local officials about the new system's strain on their finances. Such grievances may have led to outrage but the healthcare and retirement programs have helped mediate them.

Several fishermen highlighted the need to be paid immediately in the new market and bidding process. Officials at the delegation argued that illiteracy and ignorance were root causes of outrage over the new laws. Other artisanal fishermen told a different story. These fishermen agreed that they disliked the longer time it took to be paid. They also believed that illiteracy inhibited many of their colleagues' understanding or knowledge of laws. More importantly, the new system's bidding process hindered their product's quality.<sup>55</sup> The lower quality means a lower selling price, and being forced to store fish in canoes for a longer time lowers that quality. To this effect many prefer the old market in that it opened at four o'clock in the morning, much earlier than the new market's eight o'clock opening.<sup>56</sup>

Grievances and other factors inhibiting protest are threefold. First, fishermen argue that their poor financial status and lack of proper documentation caused many to stay at home. Protest simply endangers their livelihoods. Thousands of workers are undocumented yet continue to work. Their financial situations are comparatively worse than legal workers' as they are

excluded from applying to 2009 healthcare and retirement benefits.<sup>57</sup> Boat owners must first sponsor many fishermen who seek documentation. These boat owners may charge them a fee of 10,000 dirhams (approximately 1,016.18 US dollars) for their official sponsorship, well above what most artisanal fishermen can afford.<sup>58</sup> Workers who protest and fish illegally are potentially subject to higher sanctions under Moroccan law. They receive no benefits from government programs, as do the legal fishermen.<sup>59</sup> The general level of poverty is already so high among legal fishermen, so the issue is exacerbated among the illegal ones. Legal fishermen had expressed their discontent and financial dependence on the industry. The source of income means everything to many. If not for the will of Allah, one fisherman had said, he would've done anything other than fish.<sup>60</sup>

Second, fishermen feared state repression and imposition of strict laws. This was the most common response. The fisherman who talked about attending a rally in Rabat where police beat him up clearly showed this is a real fear. The fact is the 2009 law imposed strict sanctions. Sanctions were not graduated.<sup>61</sup> Illegal activities such as selling in the black market were simply forbidden. High sanctions were also effective at deterring dissent in Agadir. The effectiveness of severe sanctions was highlighted in the black market over the last ten years. The unanimous consensus among the thirty-three fishermen asked about the black market was that participation continued to shrink as the laws increased in severity.<sup>62</sup> <sup>63</sup> This shrink, however, occurred primarily with the poorer fishermen unable to bribe the authorities.

Fishermen made the case during the interviews that officials at the Ministry of Agriculture and Fishing municipal delegation rarely, if ever, made attempts to help or communicate with them.<sup>64</sup> For example, the delegation posts flyers to inform fishermen of new laws and programs. They do so despite the fact that vast majority of fishermen are illiterate. Rules fishermen may

wish to protest must be spread via word of mouth.

Third, if protests do occur within the other sectors of fishing, there is an incentive to free ride. Some fishermen said they would consider joining a protest if coordinated by the other sectors of fishing, passing the cost and sanction to others. It was believed that bigger vessels carried more influence in the eyes' of local officials, and doing so exacerbated their willingness to free ride. Artisanal fishermen seem to want to hide behind the larger sectors in case the government decided to retaliate. Despite such free riding, one man did claim the police had beaten him when he joined a protest organized by the owners of larger boats in 2005 in Rabat.<sup>65</sup> Generally speaking, however, artisanal fishermen in Agadir were more than willing to free ride, both in terms of costs and sanctions. Although they are joining the collective action of others, it is difficult to say this constitutes any group function from within the actual community. Artisanal fishermen are willing to join a movement, yet no one is willing to *initiate* that effort. In this sense, at least, collective action appears disincentivized by costs and sanctions in Agadir due to free riding.

Overall, the level of protest in Agadir is quite low despite several grievances. At the local or operational level, fishermen are unwilling to organize protests. Fishermen mention fear time and time again as the primary factor causing them to stay at home. An opportunity to free ride is also a major motivating factor as some are willing to join protests organized by the coastal and high seas sectors of fishing. Their presence at a protest means larger numbers and safety. Another factor inhibiting protests is dependency on the industry for income. The financial situations of individual fishermen create outrage. The same fishermen, however, are unwilling to unite in large part because so many of them are undocumented. Not all artisanal fishermen face the same sanctions or benefits for protesting.

*Communal Activities*

Communal activity may be formal or informal, and as defined in this thesis (see endnote 5). It must only produce some group function to be recognized in the analysis as collective action. The King has recently spoken publically in favor of associations and cooperatives.<sup>66</sup> If artisanal fishermen face a variety of social and financial troubles, yet are too scared to protest publicly, it may be expected that communities will work through these organizations so long as communities do not face a broken nest (as expected in Hypothesis 2). An association of fishermen may create financial safety nets for members of the community who fall sick; they may organize cooperatives and unions to achieve community goals such as documenting workers, increasing wages, or holding discussions to inform members about incoming laws.

The prevailing ignorance of, or contempt for, associations and cooperatives reflects a lack of community ties. Community members did not trust civil society organizations to carry out any collective initiatives for their community or general membership. The unanimous reply of the forty-five artisanal fishermen responding to this question say that they never organize a means to share responsibilities or support others in their community. Thirty-three state further that they dislike all cooperatives, unions, and associations. Twelve believe that some associations are okay, but that the major association, the Association for Artisanal Fishing Boat Owners and Fishermen (henceforth called “the Association”), and the cooperative, COPMAS, are excessively corrupt.<sup>67</sup> Three respondents had no idea that associations and cooperatives existed in Agadir at all. Although the majority of forty-four fishermen interviewed said they would help a close friend in need, the overwhelming response was that the community lacked any semblance of trust to form strong organizations of civil society. For this to happen, trust must extend beyond a fisherman’s immediate friendships.

It is true that the number of associations has risen in the last five to six years in response to the King's speeches.<sup>68</sup> This may be a case where a clear signal benefits from nested enterprises in the Agadir case. However, it is argued by the Representative that they do not actually organize. They form because some fishermen in Agadir wish to have the title of leading an association.<sup>69</sup> The recent growth of associations is apparently nominal at best.

When asked why people refused to organize, a fisherman interviewed stated that he believed everyone—including himself—was a thief. Organization would not result in a more equitable community. The perceived level of corruption among local officials working in Agadir has exacerbated this idea.<sup>70</sup> There appear to be several examples of principal-agent problems within Agadir's artisanal fishing community. Fishermen pointed to the leaders of the cooperative and associations as proof of corruption in their own civil society. The vast majority of fishermen believed that the associations and the cooperative, COPMAS, served only the interests of their leaders. To their knowledge, there are no unions that represent artisanal fishermen.<sup>71</sup><sup>72</sup> Most fishermen were not members of any such group, and at least eight members of COPMAS agreed with the above assessment, stating that they never benefitted from membership.<sup>73</sup>

The same pessimism about the cooperative and associations was true of the elected representative. He is the only fisherman elected to speak on behalf of artisanal fishermen (the president of COPMAS is also the elected representative of artisanal fishermen, although these positions are unrelated). Almost all fishermen except two—including the representative—believed he cared only about his position and status.<sup>74</sup> During an association meeting, one board member consistently blamed the representative for the problems fishermen faced, including the longer selling process at the market.<sup>75</sup> The previous representative was said to be even worse and was arrested for corruption.<sup>76</sup> When asked if the current representative would be reelected,

most fishermen implied it was unlikely, and few expressed interest in voting. Several fishermen also expressed they never vote during the elections because they believed no change would come from doing so. Others were surprised to hear that they had a representative at all.

The lack of trust within the community and towards its internal organizations severely lowers expectations of success. Regardless of a clear signal coming from the King (by all means a constitutional rule), actual group functions depend on more than the ability to form associations. Although local officials claim that voter turnout is growing, and that the number of associations has been on the rise in the last ten years, the consensus among fishermen about these organizations and the elections are negative.<sup>77</sup> The lack of trust and perceived high levels of corruption keep the incentive to organize low.

The other disincentives are fear and the use of intimidation. Although the central government and municipal delegation have recently come out in support of associations and cooperatives, overall efforts to organize for the sake of any type of lasting collective action have been on decline for the last decade. None of the fishermen interviewed could even identify a single union that represented artisanal fishermen.<sup>78</sup> When the author discovered rumors about a murder in 2000, every fisherman interviewed (about twenty) pointed to that as the primary reason people refused to organize. A fisherman who they felt represented their interests had attempted to form a union for coastal fishermen and fight for fishermen's rights.<sup>79</sup> After he accused the government of corruption, he was supposedly threatened, murdered, and dumped in the ocean.<sup>80</sup> This single event was the initial signal that collective action would inevitably result in failure and even death.

### *Monitoring*

There is no organized monitoring in Agadir by artisanal fishermen. This is the unanimous

response of forty-four fishermen asked about organized monitoring. Agadir's unanimous response to whether fishermen organize ways to monitor behavior of either the community or government was no. The single exception was in the case of theft, but such monitoring was never organized nor collective. The reason for this was fear, again related to the level of corruption in Agadir. People feared that if they chose to expose a wrongdoer, and that person turned out to be wealthy and pay off the police, then that person may retaliate against anyone they believe to be a snitch.<sup>81</sup> Again, fear dominated the incentive structures of artisanal fishermen.

### Laayoune

#### *Protests*

Although strikes are legal under Morocco's labor laws, the US State Department's 2001-2013 Human Rights Reports on Western Sahara state there have been no known labor strikes in either Laayoune or Dakhla during the twelve to thirteen years.<sup>82</sup> These documents do report several demonstrations and instances of state repression, but it doesn't appear that artisanal fishermen participated in any labor strikes. The interviews with fishermen, however, suggested that certain protest-like activities (henceforth referred to as mini-strikes) were commonplace in the Laayoune community.

Among interviewees familiar with the region, the majority confirmed the State Department's report that there were no large demonstrations or protests in Laayoune.<sup>83</sup> The one exception was a ministry official saying that some protests occurred in Laayoune over the amount of fish stock left in the ocean.<sup>84</sup> According to the 2014 John F. Kennedy Human Rights Report and WSRW's website, nine Sahrawi fishermen were arrested and detained for six hours for protesting the FPAs with the EU in the nearby town, El Marsa ("Western Sahara" 2014; "9 Detained" 2014). It is

unclear whether they were artisanal fishermen. Everyone else agreed that major demonstrations were out of the question due to the region's political climate, a point likely exacerbated in Laayoune because of the nearby location of a Moroccan military base. It appeared that the closer one was to authority, the more likely one would face repression.

Thirteen artisanal fishermen I had interviewed who had been to the region said the community would carry out mini-strikes to signal to regional authorities when they disagreed with particular laws.<sup>85</sup> When a fisherman heard about laws he didn't like, he would tell friends who in turn told others to stop selling their fish for approximately two-hours. Individuals took note of the government's activity, and the community applied sanctions. Fishermen said that the larger community mobilized around this informal collective activity.<sup>86</sup> According to one informant, this would signal the authorities that fishermen were upset with a law. Among the thirteen interviewees asked about mini strikes, authorities usually backed down from enforcing the laws they protested.

The signal appears to indicate an unspoken agreement that fishermen and authorities share in a broken nest. Because fishermen are aware of the political environment, they know that public protests will be met with repression. Authorities in Laayoune know that the use of force hurts their own profits in the occupied territory. While the State Department has reported Morocco's official position that such corruption is isolated, fishermen have suggested the issue is endemic. Both fishermen and the U.S. State Department's reports confirm that military officers in Western Sahara are personally invested in private businesses, and utilize government connections to obtain preferential access to fishing licenses (US State Department 2011).<sup>87</sup> It appears that this type of corruption is connected to the political environment where Morocco's occupation is known to be controversial. So long as artisanal fishermen organize to exploit unreservedly, the



authorities are less likely to retaliate if they still profit. Likewise, it appears that authorities can use this to their advantage to avoid protests in a sensitive region.

The broken nest appears to actually facilitate collective action. International law plays a role in this, but it had been expected in the theory that international law would send a mixed signal causing fishermen to organize less. In Laayoune, a mixed signal created greater flexibility for local communities to maneuver. Likewise, fishermen and authorities may have informally been able to negotiate their own set of collective-choice and operational rules from within. Mini-strikes appeared to not be directed at the fishing of foreign vessels, as they were not mentioned in the interviews. However, it is safe to say that a general knowledge of the region's controversy does exist, however, because fishermen appear to reach a financial compromise with local authorities. Both authorities and fishermen take advantage of the government's *de facto* status to increase profit and make the best of what they can. This relationship appeared to be shaped by the proximity to the nearby military base and instances of state repression against other communities.<sup>88</sup>

### *Communal Activities*

The US State Department's Human Rights Reports on Western Sahara state that Morocco's largest trade confederations are present in both Laayoune and Dakhla, and that Moroccan labor laws technically apply to this region as they do in Agadir. These organizations include the Moroccan Union of Labor and the National Union of Moroccan Workers. However, the reports are also adamant that their presence exists in name only. The unions are inactive, and most members are employed by the government or state-owned organizations (US State Department 2011).

According to artisanal fishermen interviewed in Agadir, the region of Souss (in which Agadir

is situated) is distinct from the southern region in that it lacks a sense of community. While in Agadir it is every man for himself, Sahrawis are raised to operate as a community. Such behavior is informal, and appears to work outside of unions, associations, and cooperatives.<sup>89</sup> The traditions and customs of the Sahrawi people are grounded in a rich Hassani culture.<sup>90</sup> To be Sahrawi generally means that one is descendant of predominant social grouping or so-called “tribe” in the area. Linguistically, Sahrawi are distinct in that they speak a Hassānīya dialect of Arabic as opposed to Morocco’s Arabic dialect (Darija) (Mundy 2012 109). This culture is prevalent in everyday life and major events such as marriage, death and burial, circumcision, and baptism (*akika*). Their rich literature includes proverbs and poetry that are integral to Sahrawi culture, and create the moral fabric within which they live. These codes of communal conduct are engendered in southern upbringing, and largely stem from historically nomadic lifestyles (Mundy 2012, 109). However, the fishermen in these interviews say this communal hospitality is extended to all fishermen regardless of their ethno-cultural background. To this effect, the entire artisanal fishing communities of Laayoune and Dakhla are similar to Agadir in that fishermen largely help each other informally “as friends.” The apparent difference is that this neighborly attitude extends further.

### *Monitoring*

My interviews indicated that monitoring served as a mechanism and motivation for the artisanal fishing community’s mini-strikes in Laayoune. Fishermen needed to identify the laws they disagreed with before they could inform their colleagues. My interviews never indicated that such responsibilities were assigned, or in any way organized. It was also unclear whether fishermen were actively looking out for new laws. People simply reacted to the laws that infringed upon their personal profits, as voicing concerns regarding their rights to fishing and

self-determination would certainly be met with repression by the state. This informal process, however, has certainly been important to the collective agreement within the community to withhold the sale of fish as a signal to regional authorities. It was necessary to get the mini-strikes underway.

### Dakhla

#### *Protests*

The US State Department's Human Rights Reports regarding labor strikes apply to Dakhla as well as Laayoune, that there are no known labor strikes in either city. Other evidence, however, suggests the level of protest in Dakhla is both distinct and severe relative to its counterparts. A report provided to the author by a West Saharan activist indicate that indigenous populations are little more than 3 percent of Dakhla's artisanal fishing community, but they are the most active and public protesters. According to expert testimony and photographs, issues may include foreign vessels and fishing agreements.<sup>91</sup> External disturbances, thus, may play a role. High level of corruption and influence of military generals and fishing lobbies, racism towards Sahrawis in the industry, and even the killings of dolphins are the reoccurring protest issues.

Active forms of collective protest in Dakhla include rallies, vigils, confidential letters written by groups to outside actors, and a press release. The ex-fishermen working in Brussels—now an activist for civil society in Western Sahara—stated that candlelight vigils were held in 2013. In the interview conducted via email he provided several photographs of artisanal fishermen rallying outside a government building on three separate occasions that same year. Confidential letters as well as an official Press Release by local associations were written in various languages, as early as 2011, and sent to various recipients including the European Union, Western Sahara Special Envoy Mr. Christopher Ross, US and British Embassies in Rabat, and a

Belgian Ambassador.<sup>92</sup> The 2013 letters and 2011 Press Release speak to similar issues-- regarding illegal fishing methods, lack of observers to monitor the activities of larger vessels, and the systematic marginalization and exclusion in the industry “perpetrated and enforced by the Moroccan Regime.”<sup>93</sup>

Dakhla is one of the few cities where fishing has been important culturally among the native population (Hagen 2008). The industry economically generated local employment. Cultural and economic ties thus incentivize feelings of contempt for illegal activity by foreign or larger vessels. The opportunity to work through channels at the UN, European Union, contacts with the POLISARIO, and through NGOs helped strengthen peoples’ expectations about changing the system in place. The costs of protest are mitigated in Dakhla by such economic and cultural ties. The expectations of benefits are more probable in light of sympathetic third parties.

The fear of repression is also prevalent in Dakhla. Consequently the number of organized protests has declined since 2013. It is unclear if 2013 is an anomaly. The same interviewee was banned from the fishing industry, and left the region to fight for his peoples’ rights where his safety is more assured. He reports that people are frequently beaten, jailed, and may lose their job for organizing protests.<sup>94</sup> However, it appears that other factors have offset this fear of being repressed and translated into public and collective protest at least at one point.

It is again the case that international law is relevant to members within Dakhla’s local community, but not the anticipated one. Strong horizontal ties between Sahrawi fishermen generated collective action in this political environment of a broken nest. The social network in fact appears strengthened under Morocco’s controversial occupation. It also appears that group size may contribute to such action, as Sahrawis constitute a small portion of the industry. The legal situation also allowed these fishermen to reach up towards NGOs and international

organizations in order to actually speak out against foreign vessels (external disturbances) in an organized fashion. Rather than send a mixed signal that lowers a fisherman's confidence to organize, a broken nest simply provided an alternative (and ironically clear) path for this relatively tightknit group of Sahrawis to organize—for a brief point in time, at least.

### *Communal Activities*

The same Hassani culture prevalent in Laayoune also exists in Dakhla. However, it is amplified by a history tied to fishing. Likewise, to the author's knowledge, Dakhla is positioned further from a major military base than Laayoune. These factors appear to shape collective action into something more public than in Laayoune. Furthermore, it is also unclear whether the Hassani's communal mentality extends to others as it does in Laayoune. As mentioned by Hagen earlier, Dakhla is one of the few cities where fishing has been important among the native population. The industry economically generated about 40 percent of local employment prior to Morocco's occupation.<sup>95</sup> Cultural and economic ties thus incentivize feelings of contempt for illegal activity. As a result, three associations fighting for Sahrawis in all sectors of fishing have been identified as being active at one point in the city for its community's rights and resources. Thus far, that figure is more than both Agadir and Laayoune combined.

### *Monitoring*

While it is unclear how artisanal fishermen monitor day-to-day behaviors of other fishermen, the monitoring network in which Sahrawis and even Moroccans participate is both extensive and surprising. If fishermen hear or witness, for example, that foreign vessels are off the coast or docked at the port, they capture photographs that are then sent to contacts within the Sahrawi government in exile, the POLISARIO. The POLISARIO then informs its legal associates. These associates then purchase commercially sold satellite data in order to identify and confirm the

report.<sup>96</sup> This process allows them to build a case to present to international organizations such as the UN, ICJ, or perhaps the European Union as well, calling upon the international community to invoke sanctions.

Without fishermen on the scene to begin such processes, sympathetic parties would be unable to build a case against Morocco. In one case, legal associates of the POLISARIO were able to find out about a recent fishing agreement Morocco had made with Japan via a Japanese contact because this process had been set in motion at the grassroots.<sup>97</sup> The legal associates were then able to contact someone in the Canary Islands to photograph in detail the Japanese vessels and their landing upon arrival there.

This process allows people to build a case against the Moroccan government, and foreign actors that choose to associate with it. Thus, monitoring in Dakhla begins a chain reaction that allows outside parties to respond accordingly. The presence of sympathetic parties incentivizes fishermen to monitor the illegal activities of foreign vessels/external disturbances. If Morocco's occupation were not contrary to international law, it is unlikely they would be so active in the area. In the same way that sympathetic parties need fishermen to monitor, artisanal fishermen in Dakhla need sympathetic third parties to inspire collective monitoring. Thus, a broken nest appears connected to a higher level of collective action in Dakhla as well as Laayoune—albeit distinct from one another.

### Size

To investigate size of fishing communities as a possible confounding factor for levels of collective action, research was conducted in the much smaller artisanal communities in the region of Souss, primarily in the villages of Taghazout (just north of Agadir) and Imswan. The impact of size on collective action is questionable in these cases; relative to Agadir, size appears

to have a positive impact on the community's call to collective action in Taghazout, and a negligible one in Imswan. Interviews were conducted with six fishermen in Taghazout, and an ex-employee of Imswan's cooperative. No fishermen were interviewed in Imswan due to the time constraints of research.

### *Imswan*

The cooperative in Imswan began in 1995 at the suggestion of the Japanese government; actual work in the cooperative began around 1999. The cooperative is a compound consisting of a marketplace, and eighty rooms to house fishing equipment that each member must pay one hundred dirhams (about ten dollars and ten cents) a month to rent.<sup>98</sup> However, the cooperative faced financial problems soon after it became operational because fishermen refused to pay their rent. Although the issue existed from the onset of the cooperative, the problem has grown in recent years and prompted the ex-employee I interviewed to leave the cooperative before it became worse.

Fishermen in Imswan do not organize; they do not monitor, protest, and their sense of community have in fact hurt the success of their cooperative. The President of the Cooperative is a local villager. He is regularly elected along with his cabinet members (Vice-president, Treasurer, etc.) by the cooperative's other members. In theory, the President is responsible for reporting illegal activity to government officials. Certainly fishermen who refuse to pay rent are to be denied a place in the cooperative. However, the president has refused to take action because the community would publicly shame him as a form of sanctioning for doing so.<sup>99</sup> Rather than promote collective action or any form of effective management, the social norms of this artisanal fishing community facilitated the perfect free rider problems. Everyone benefits from free riding off of the cooperative's facilities.

*Taghazout*

Taghazout has its own cooperative. Artisanal fishermen have run it since 1995 as a way to obtain engines for their canoes, as well as tractors to carry these vessels to and from the coast.<sup>100</sup> The latter service is especially important because there is no dock in Taghazout to which fishermen can moor their boats. Although they are supposed to receive foreign funding, much of this funding is stolen, lost, or spent by the government before it reaches the community.

Fishermen elect their cooperative's leaders at least as regularly as they do in Imswan, and its members pay 1,200 dirhams (about 120.96 dollars) each year to the cooperative's bank account to fund future activities. For example, if a tractor is broken, then the cooperative is responsible for finding and paying for repairs. In addition to the annual 1,200 dirham membership fee, fishermen pay an additional 25 dirhams to the tractor's driver with every use in order to further fund the cooperative's services. In addition to the purchase of repairs and fishing equipment, the cooperative represents fishermen when they wish to file a complaint with the government.<sup>101</sup>

Fishermen in Taghazout are inspired to monitor the practices of larger vessels in Agadir, and complain when they are killing too many fish, when the government has yet to distribute development funds, or the community is facing some issue in need of outside support. In terms of larger vessels, the activities of foreign vessels had not been mentioned. The cooperative acts as their trusted representative. However, it is worth noting that fishermen do not monitor one another in certain cases regarding the new law in 2009. One part of this national law denies fishermen the right to fish if they are over sixty years of age. Many who are older continue to fish in order to feed their families, and the community refuses to invoke sanctions. The community would never betray a fellow community member to the authorities.<sup>102</sup> The cultural bonds and social networks within the community are too strong, and it is feasible that its size



guarantees that whomever snitches will be found and isolated. That being said, no one during the interview believes the law is just.

The consensus of those interviewed is that the cooperative is an important asset to the community, one to which that fishermen contribute personal funds, and trust. This same trust is absent regarding the government, and fishermen in Taghazout prefer to be self-reliant. This is certainly significant, as Ostrom has argued in favor of grassroots management as opposed to the government's top-down control. The lack of trust stems from perceived corruption, and its solidarity likely benefits from its smaller size. Both Imswan and Taghazout are averse to government policy, and it appears that culture/social norms shape perceptions about the government. Overall the results in Taghazout are in stark contrast to what has been said about Imswan's cooperative. Taghazout fishermen are less prone to free ride than in Imswan. Size may play a role in Taghazout's success, but success is likely shaped by social norms.

### **Discussion/Conclusion**

International law impacts the collective action of artisanal fishing communities, but such impacts are qualified by the presence of several factors including social networks, corruption, the more nuanced signaling by the regional authorities, a history of fishing, external disturbances, the presence of sympathetic third parties, and proximity to military forces. Below are a proposed sequence of variables, and a re-proposed research design.<sup>103</sup> Much was discovered that analysis failed to consider, and the interaction between variables require future research. However, the political environment appears to underpin the nature of other variables. The study's overall predictions and three hypotheses are false. It appears that a broken nest actually inspires collective action, at least when that break occurs at the international level. However, this outcome may be due to the cases being examined and the absence of other principles. Although

this study has attempted to isolate and focus on the nested enterprises principal, it may be necessary to consider all of Ostrom's principles in future research. Likewise, it is inconclusive whether Ostrom's nested enterprises principle is inapplicable to the international arena.

#### FIGURE 3 AND TABLE 7 ABOUT HERE

The overall prediction and three hypotheses of this study are unsubstantiated by any or sufficient evidence. Agadir demonstrates the least collective action of all three artisanal fishing communities. The three group functions are embodied in protests, communal activities, and self-organized monitoring, and all are more prominent in Dakhla and Laayoune, Western Sahara. While Laayoune and Agadir both lack community-organized monitoring systems and substantive formal organizations, Agadir does not surpass its Western Sahara counterpart as expected in the second and third hypotheses. Although it is also true that Dakhla's associations had been shut down after 2013 by the Moroccan government, the fact they had existed at all testifies against the second hypothesis. Protests are only organized by artisanal communities in the Western Sahara cases, in direct contradiction of the first hypothesis. However, such outcomes are largely the result of collective action instigated by the indigenous Sahrawi people.

The indigenous fishermen of Western Sahara are far more likely to collectively organize than their Moroccan counterparts. It has been stated that Sahrawis account for about 3-4 percent of the artisanal fishing community in Dakhla, at least. Examination of Taghazout and Imswan, Morocco, thus suggests that size may play some role in lowering their organization costs. Culture and historical ties to the resource further reduce perceived costs by increasing levels of communal trust. Trust, or rather, distrust, is time and again mentioned in interviews as a key determinant of Agadir's low-level collective action. Hassani culture in Western Sahara's Laayoune and Dakhla is distinct from Agadir's culture in that the former is conducive of

collective action. In Laayoune, at least, the communal qualities of Hassani culture are extended to the entire community. It is worth noting trust also benefits fishermen in Taghazout, however, though just north of Agadir. The manifestation may thus not be due to Hassani culture, per se, but rather particular social norms common in that specific culture.

The role of intimidation in hampering collective action is strong in all three cases. In Laayoune and Dakhla, Western Sahara, it is clear to artisanal communities that state authorities will repress large demonstrations. Cases of authorities violating human rights are too frequent to doubt. This is especially so in Laayoune, where a military base is relatively nearby.<sup>104</sup> However, the impact of intimidation and fear actually appears to be less in either city when compared to Agadir. The frequently cited reason for low-level collective action in Agadir occurred in the late 1990s/early 2000s, when it is rumored that a member of the community had been killed and dumped into the ocean. Since that time, any semblance of collective action, other than perhaps the black market, is nearly nonexistent.

### *Broken Nest*

The hypotheses of this study expect that communities are left with mixed signals about how to collectively organize when international law contradicts national law. It had been thought the result would be a reduced incentive to collectively organize because community members lack the necessary confidence to do so. This appears to be false for two reasons. A broken nest may attract third parties sympathetic to the conditions of occupied peoples. It may also increase the regional authority's tolerance of small protests to avoid the larger demonstrations that threaten personal profits.

When international law sides with the human rights of an occupied people, it incentivizes local resource users to connect with third parties. The link between the two may raise the

expectations of resource users who seek to invoke the soft power of international institutions upon the state. Likewise, it is clear that in Dakhla at least, a means of communication manifests between fishermen and third parties in order to operate a rather sophisticated system of monitoring.

The condition of a broken nest in Laayoune indicates another incentive that is within the case itself. Regional authorities appear to tolerate small protests, or mini-strikes, for two reasons. It is still assumed leaders seek to remain in power, and large demonstrations threaten that power more so than fishermen's attempts to fish as much as possible. Thus, there may be a natural incentive to satisfy the financial desires of the community in order to avoid public protests. Second, the corruption among regional authorities and lobbies exacerbate these desires to appease fishermen and maintain the status quo.

#### *Role of External disturbances*

External disturbances—the activity of foreign vessels—are a source of outrage within Western Sahara's artisanal fishing community. They serve to inspire collective action in these communities, inspiring protests and systems of monitoring. This is significant because it corresponds with existing literature in suggesting that external disturbances unite communities and groups in a common cause.

The presence of sympathetic third parties, such as NGOs, helps facilitate the monitoring of illegal activity from within these fishing communities. If the presence of this external disturbance had existed without third parties interested in the grievances of artisanal fishermen, it is unclear how artisanal fishing communities would have responded. Thus, external disturbances may unite groups so long as they are coupled with other conditions that help channel collective responses.

#### *Nested Enterprises, Necessary but Insufficient on an International Level?*

It is difficult to refute this study's basic premise that Ostrom's principle is a necessary but insufficient condition of enduring collective action at the international level. This thesis reduced the nested enterprises principle to a coherent hierarchy of rules in order to test the validity of Ostrom's 1990 definition. Because the Kingdom of Morocco has a centralized system of control, reducing nested enterprises allowed for testing of cases in a system that Ostrom herself warns are often catastrophic in regards to collective action (Dietz, Ostrom, and Stern 2003, 1910).

Although the results are relative to each other, it is possible this definition excludes too much of what Ostrom really means when she says nested enterprises. Her later work confirms as much.

I argue that reducing Ostrom's principle is actually beneficial for the understanding the true complexity of the nested enterprises principle. In fact, the results are significant to a more complete understanding of Ostrom's principle in two respects. First, the mini-strikes in Laayoune indicate that collective action thrives when nested rules are flexible with each other. Instead of an agreement between rules, these rules should grant each level of governance considerable jurisdiction over its own decisions. If such flexibility is nested from the local to international governance levels, perhaps then the nested enterprises rule is a necessary but insufficient condition of enduring collective action systems.

Second, the need for horizontal linkages, as stated by Cox et. al (2010), is confirmed by the role of Hassani culture in the Western Sahara cases. Ties between people at the same level of governance are equally important as those of the vertical hierarchy between various levels of governance. The role of culture is pronounced in both Laayoune and Dakhla, yet they organize quite differently. While Laayoune appears to prefer negotiation with regional authorities, Dakhla is more proactive in claiming its resources and rights via protests and monitoring. The deciding

factor in these two cities' tactics appears to be the nature of cultural and economic connections to the resource (that is, fish), as well as the communities' connections to sympathetic parties.

The same Hassani culture prevalent in Laayoune is again prevalent in Dakhla, but in the latter the city's historical ties to fish as a primary means of livelihood amplify such cultural identity. In Dakhla, though not in Laayoune, fishing has been economically important to the local population. Furthermore, connections to sympathetic third parties such as WSRW and the POLISARIO appear to be more active in Dakhla than in Laayoune. Thus, the incentive to resist and combat the system at hand may be more prominent here.

By breaking down the nested enterprises principle, scholars are able to understand more comprehensively the need for certain features of nestedness. This study finds that nested enterprises principle calls for more than an agreement between rules. Rather, it consists of a layering of rules, wherein resource users may *negotiate* with both other resource users, and broader governing bodies above them. Rather than a single well-defined signal, collective action may benefit when there is some grey space in which communities can maneuver. Taken together, the findings in this study are quite similar to *Governing the Commons* overall assessment. Collective action of a resource community appears to be further shaped by the presence of third parties, proximity to authority, and their distinct connection to the resources that they manage.

#### *Points of Future Research*

This study is exploratory, and the Western Sahara cases suffer from a lack of data. Future research demands more from these cases, as well as similar communities in the area. Additionally, more interviews will elaborate on the level of collective action in these cases as well as the relationship between the new and discovered independent variables. Future research

will also describe whether the collective action found in these case studies is at all enduring over time. At this point in time, analysis suffers from a snapshot of collective action, and is thus unable to trace collective action trends throughout history. Therefore, I encourage scholars to further explore these cases to better assess the validity of these conclusions. I further suggest that scholars look into black market activity as a form of collective action, as during my field research, it has shown to play a role in the lives of fishermen. In terms of future research, in closing, I make the following propositions.

*Proposition 1:* Layered governance of large-scale resources requires a strong internal culture that connects a fisherman to his fellow colleagues.

*Proposition 2:* There should be more collective action in a community when the meanings of rules coming from a hierarchy are negotiable.

*Proposition 3:* Collective action is shaped by the types of third parties, such as NGOs or human rights groups, present in a resource appropriator's environment.

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## Appendix 1

Accountant, Accountant's Son, and Processing Plant Manager. Interview. 26 December, 2014.

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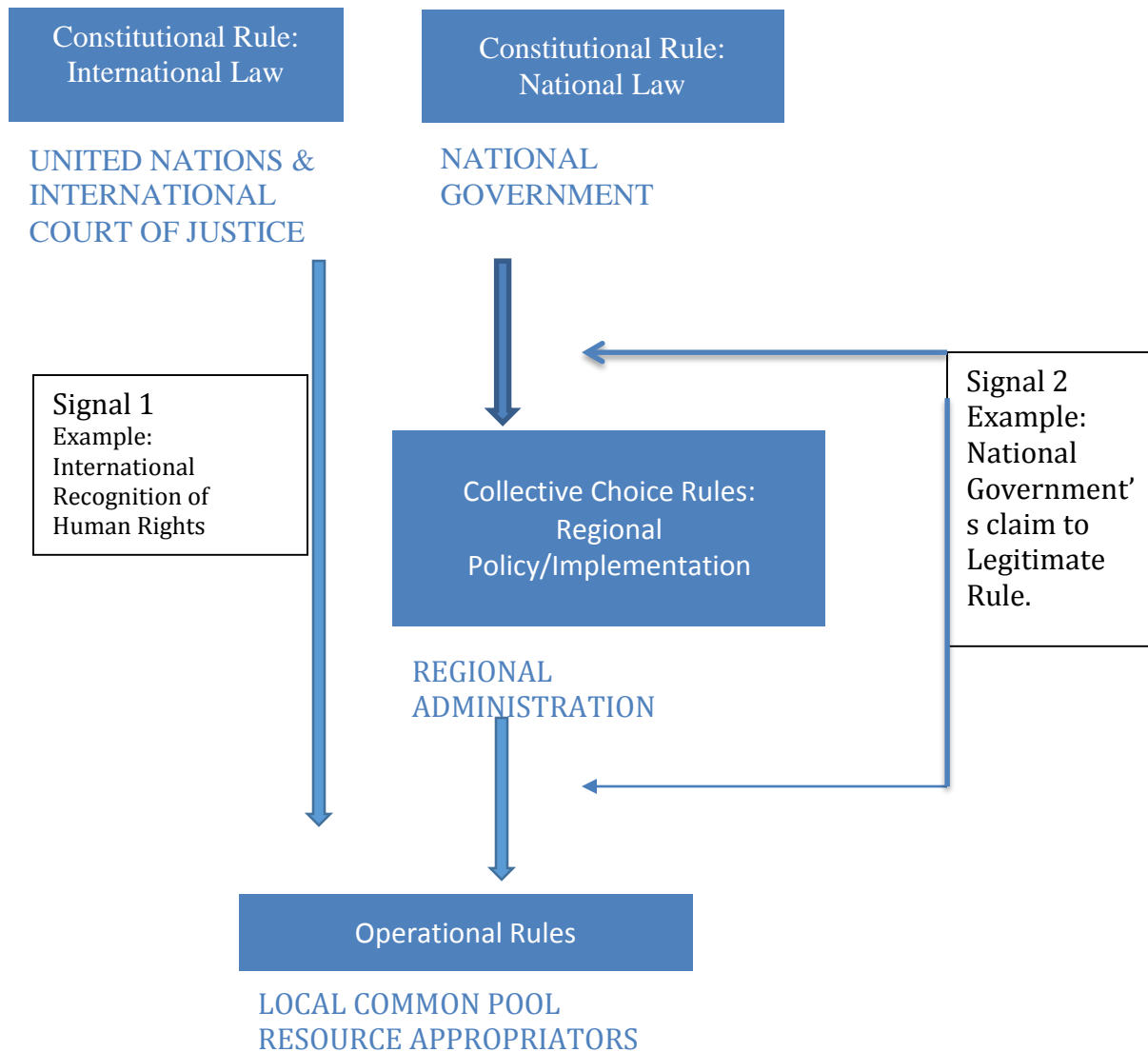
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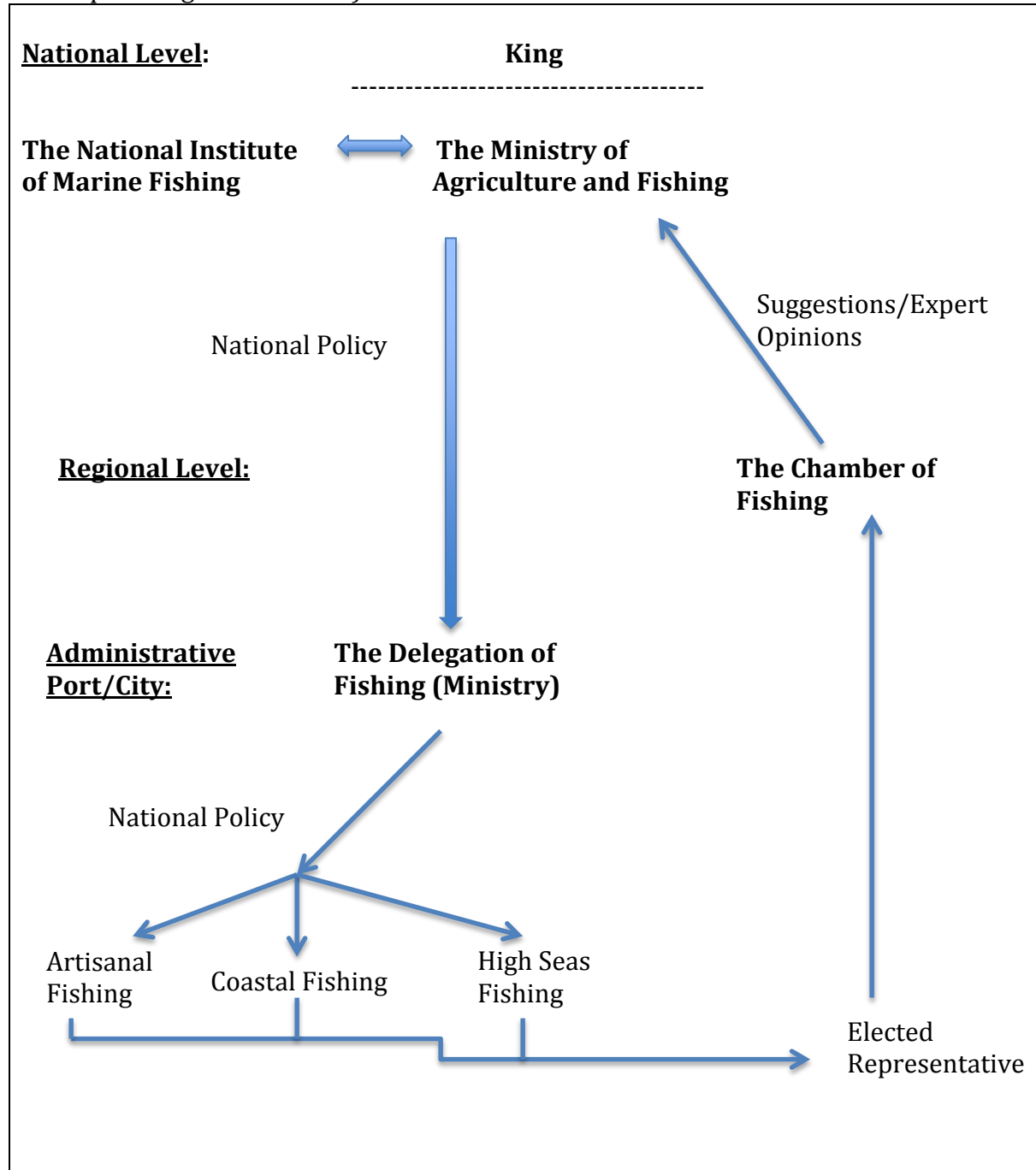
Vigil or Rally. Photos from Email Correspondence. 14 January, 2013. Dakhla

## Appendix 2: Figures, Tables, and Map

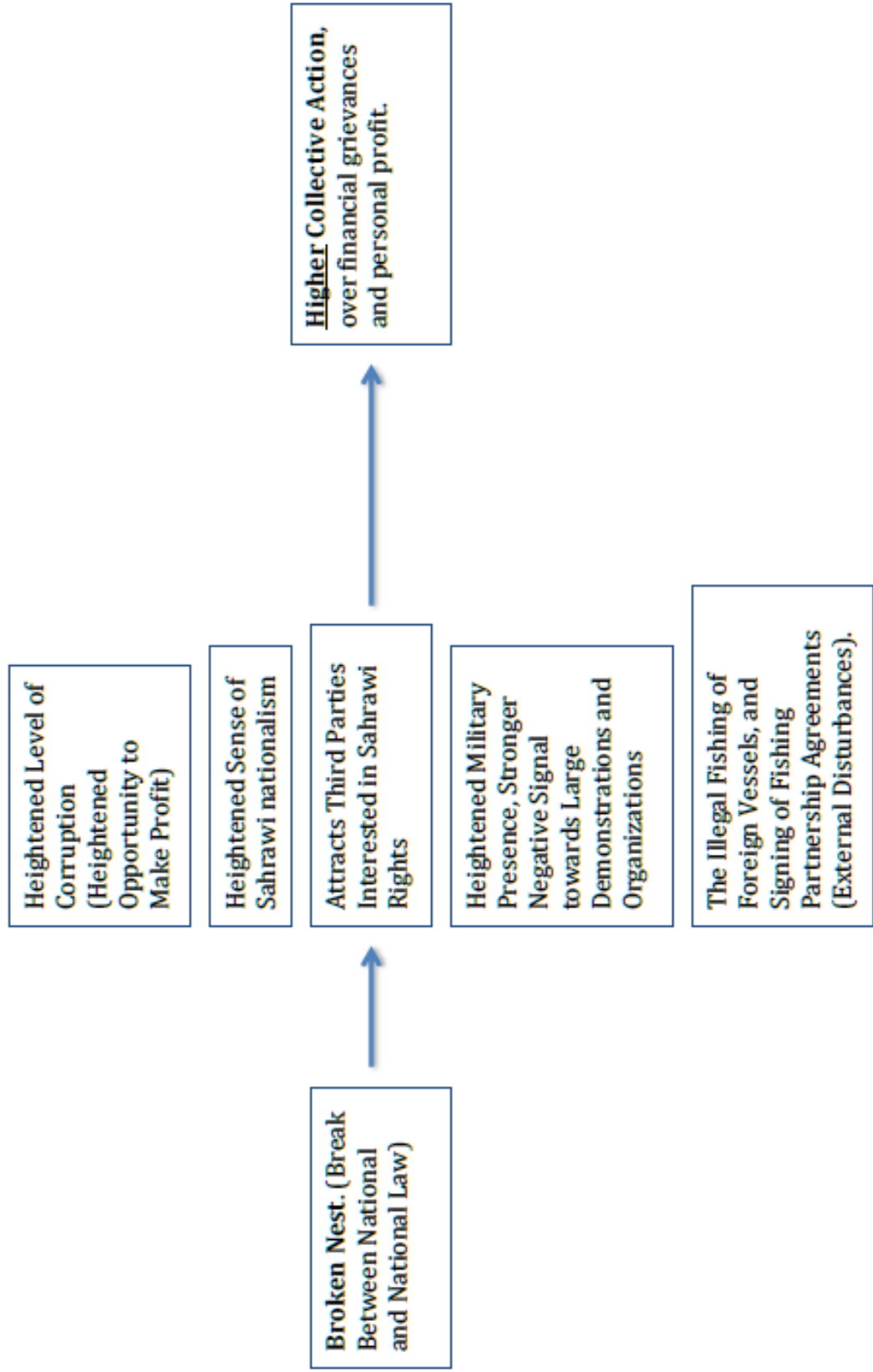
**Figure 1: Broken Nest, as Used in this Study**



**Figure 2:** Structure of the Industry (created by the author with help from Agadir's municipal delegation officials)



**Figure 3: Inferred Sequence of Variables, Post-Field Research**



**Table 1:** Elinor Ostrom's (1990) Design Principles

<p>1. Clearly defined boundaries: Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself</p>
<p>2. Congruence between appropriation and provision rules and local conditions: Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.</p>
<p>3. Collective-choice arrangements: Most individuals affected by the operational rules can participate in modifying operational rules.</p>
<p>4. Monitoring: Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.</p>
<p>5. Graduated Sanctions: Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to the appropriators, or by both.</p>
<p>6. Conflict-resolution mechanisms: Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.</p>
<p>7. Minimal recognition of rights to organize: The rights of appropriators to devise their own institutions are not challenged by external government authorities</p>
<p><i>For CPRs that are parts of larger systems:</i></p> <p>8. <b>Nested enterprises:</b> Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.</p>

Source: (Ostrom 1990, 90)

**Table 2: Relevant Types of Formal (approved by government) groups**

Union	The only fishermen-run group legally responsible for defending the rights of fishermen. Can defend someone in court, and indirectly supports non-members. May have general requests.
Cooperative	Can only simplify the legal process for MEMBERS ONLY. Goals must be specific.
Association	Improve social welfare of its MEMBERS ONLY. Goals must be specific.

**Table 3: Morocco's Fishing industry, by Region name, Administrative City, and Territory**

<u>Region</u>	<u>The Administrative City</u>	<u>Territory</u>
Mediterranean	Tangier	Saidia → Larache
North	Casablanca	Kenitra → Souira Kedima
Middle (Souss)	Agadir	Imswan → Tan Tan
South	Dakhla	South of Tan Tan → Lagouira

**Table 4: Most Similar Systems Design, Prior to Field Research**

<b><u>Independent Variables</u></b>	<u>Agadir</u>	<u>Laayoune</u>	<u>Dakhla</u>
Location	Northwest Africa	Northwest Africa	Northwest Africa
Government Administration	Morocco	Morocco	Morocco
International Law (as defined)	<u>Followed</u>	<u>Broken</u>	<u>Broken</u>
Fish Stock (see endnote 9)	Similar	Similar	Similar
Weather	20 Degrees Celsius Year round	20-low 40s Degrees Celsius Year round	20-low 40s Degrees Celsius Year round
Indigenous Language	Arabic (dialect: Darija) & Berber	Arabic (dialect: Hassānīya)	Arabic (dialect: Hassānīya)
Religion	Islam	Islam	Islam
History of Colonization	Yes (French)	Yes (Spanish)	Yes (Spanish)
<b><u>Dependent Variable:</u></b> Collective Action	<u>High</u> (Hypothesized)	<u>Low</u> (Hypothesized)	<u>Low</u> (Hypothesized)



**Table 5:** List of Grievances

Grievances
Corruption
Dangerous Conditions
Exclusion From Benefits
Exclusion From Employment
Expensive Equipment/Inflation
Fear of Repression
Fishing Techniques of Larger Boats
Foreign Vessels
Gas Prices/Inflation
Illiteracy
Killing of Dolphins
Low Healthcare/Retirement Benefits
New Laws
New Market
No Control Over Destiny
No Respect from Officials
Poor Equipment/Infrastructure
Poverty
Racism
Taxes
1919 French Colonial Laws

**Table 6: Collective Action**

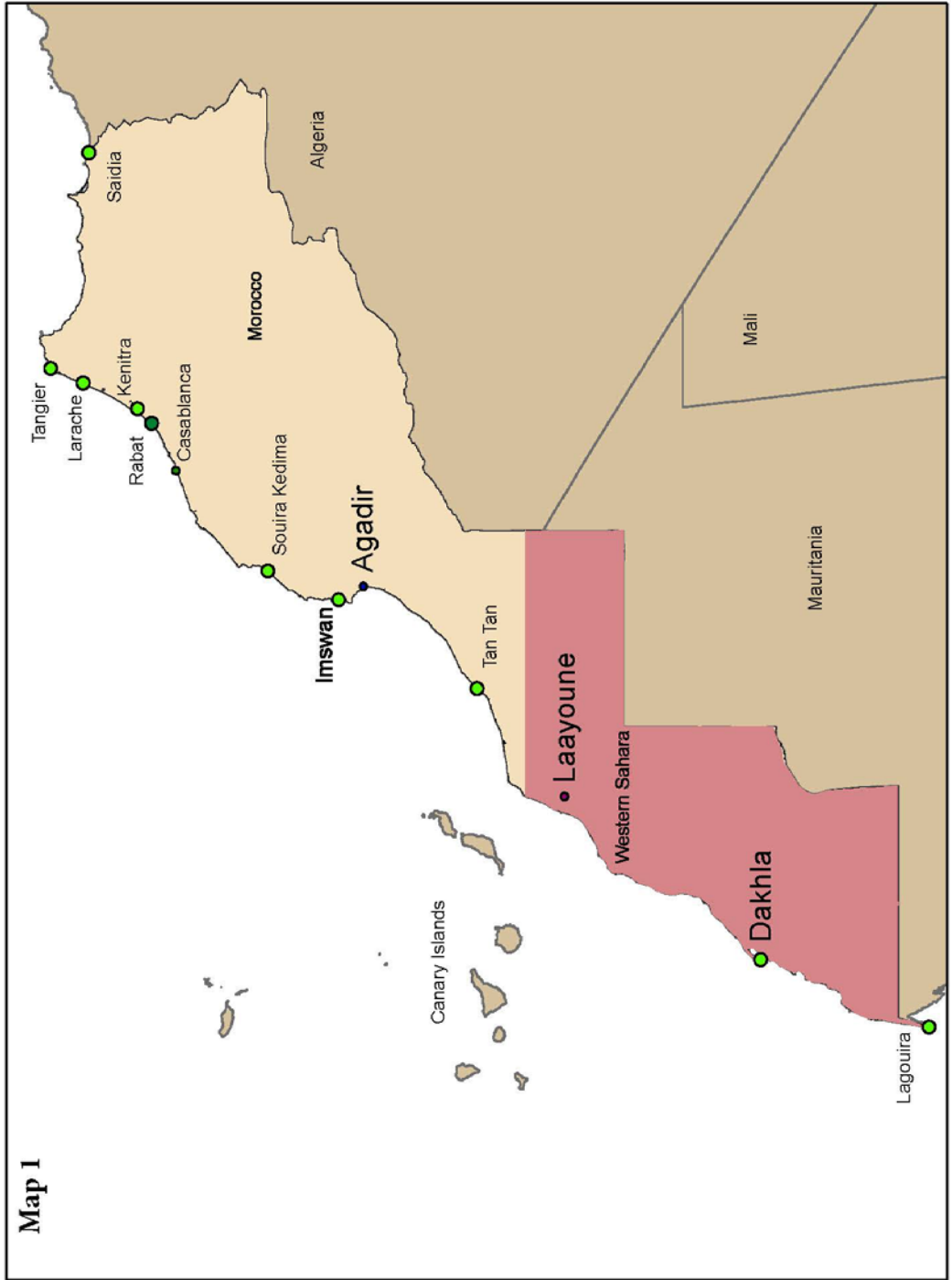
<u>City</u>	<u>Collective Action</u> (High, Medium, & Low)	<u>Forms of Collective Action</u>	<u>Who Organized?</u>	<u>Over What?</u>
Agadir	Low	--Black Market (shrinking) --Associations (Nominal) --Cooperative (Unpopular)	Wealthier Artisanal Fishermen	--New Market --New Selling Process --Documenting Workers (Function of Cooperative)
Laayoune	Medium	--Mini Strikes (*Enduring) --Large Black Market (*Enduring) --One Public Demonstration in nearby Al Marsa	--Local Sahrawi Artisanal Fishermen (joined by larger community)	--New Laws --EU Fishing Agreements (Al Marsa Demonstration) --Fish Stock
Dakhla	High	--Rallies --Vigils --Three (Known) Formal Associations --Letter Writing --Monitoring with Third Parties (*Enduring)	--Local Sahrawi Artisanal Fishermen (Joined by larger community?) --Sympathetic Third Parties	--Racism --Exclusion From Employment --Illegal Fishing --Killing of Dolphins --Corruption --Fish Stock --No Control Over Destiny

**Table 7: Research Design, Post-Discovery of Other Variables  
(Discovered Variables are Shaded Green)**

<b><u>Independent Variables</u></b>	<u>Agadir</u>	<u>Laayoune</u>	<u>Dakhla</u>
Location	Northwest Africa	Northwest Africa	Northwest Africa
Government Administration	Morocco	Morocco	Morocco
<b><u>International Law (as defined)</u></b>	<b><u>Followed</u></b>	<b><u>Broken</u></b>	<b><u>Broken</u></b>
<b><u>Military Base/Heightened Awareness of Occupation</u></b>	<b><u>Low</u></b>	<b><u>High</u></b>	<b><u>Medium</u></b>
<b><u>Social Networks</u></b>	<b><u>Low</u></b>	<b><u>High</u></b>	<b><u>High</u></b>
<b><u>Presence of Third Parties</u></b>	<b><u>Low</u></b>	<b><u>Low</u></b>	<b><u>High</u></b>
<b><u>History of Fishing</u></b>	<b><u>Yes</u></b>	<b><u>No</u></b>	<b><u>Yes</u></b>
<b><u>Government Signal as to its Control Over Region</u></b>	<b><u>Positive</u></b>	<b><u>Positive</u></b>	<b><u>Positive</u></b>
<b><u>Government Signal as to its Attitudes towards Fishermen Organizing</u></b>	<b><u>Mixed</u></b> Positive: King's Speeches Negative: Rumored Murder in early 2000s or late 1990s	<b><u>Negative</u></b> Exception: When it Raises Profits of Local Officials	<b><u>Negative</u></b> Exception: When it Raises Profits of Local Officials (Inferred from Laayoune case)
<b><u>Corruption/Local Officials Profit From Corruption*</u></b>	<b><u>High</u></b>	<b><u>Highest</u></b>	<b><u>Highest</u></b>
Fish Stock (see endnote 9)	Similar	Similar	Similar
Weather	20 Degrees Celsius Year round	20-low 40s Degrees Celsius Year round	20-low 40s Degrees Celsius Year round
Indigenous Language	Arabic (dialect: Darija) & Berber	Arabic (dialect: Hassānīya)	Arabic (dialect: Hassānīya)
Religion	Islam	Islam	Islam
History of Colonization	Yes (French)	Yes (Spanish)	Yes (Spanish)
<b><u>Dependent Variable: Collective Action</u></b>	<b><u>Low</u></b>	<b><u>Medium</u></b>	<b><u>High</u></b>

\*It has been inferred that corruption is prevalent in all three cities, but highest in the Western Saharan Cases.

\*\*Arabs, Berbers, and ethnic-sahrawis are possibly present north and south of the border, as migration from the north to the south is common. Only sahravis native to the south of the border may make claims to the international laws that are specific to Western Sahara. The exact makeup of these communities' demography is yet unknown.

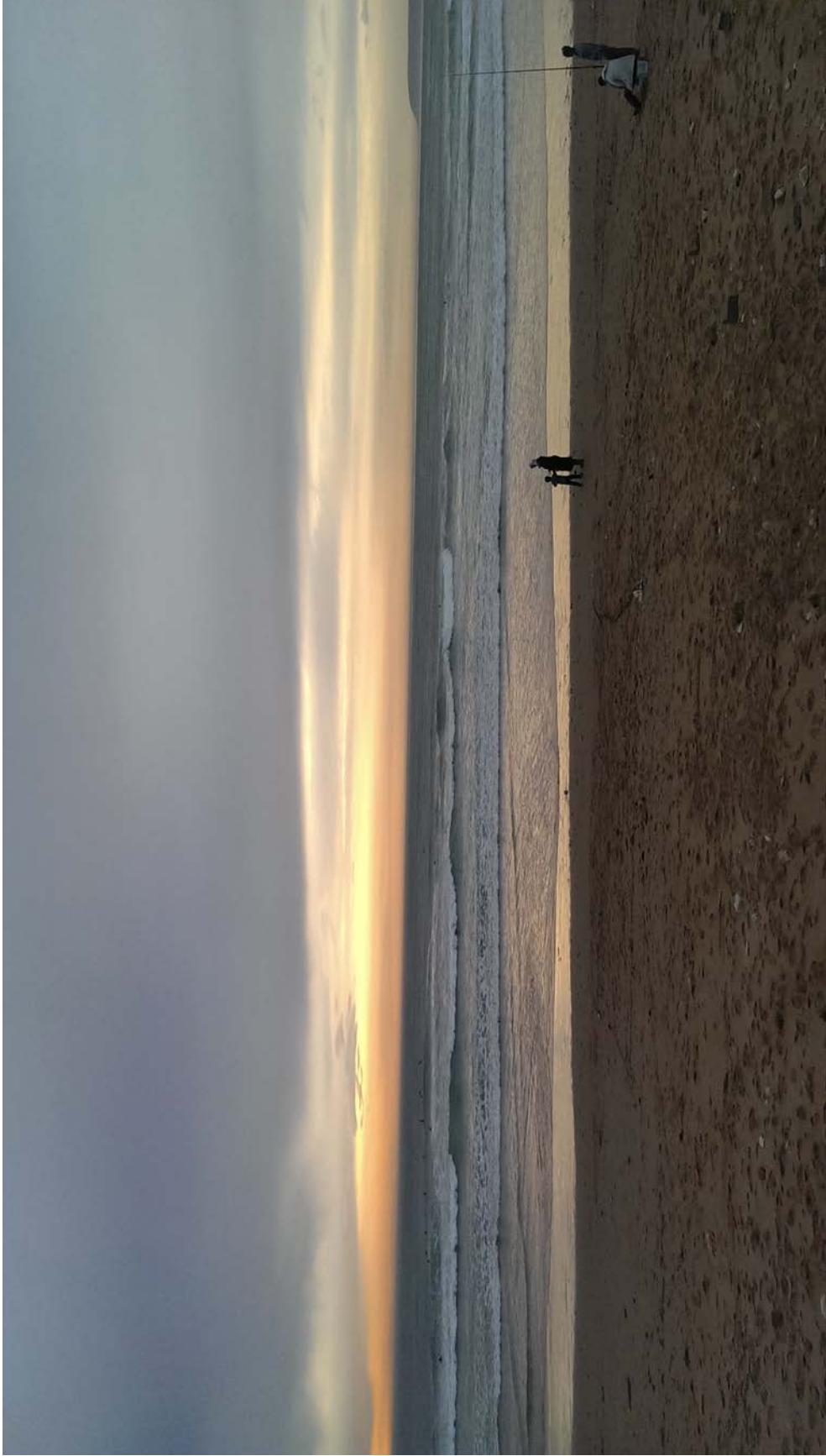


### Appendix 3: Photos from Field Research

**Photo 1: Some Artisanal Fishing Boats in Taghazout**



Photo 2: Beach in Taghazout





**Photo 3: Fishing Community Between Imswan and Taghazout**





**Photo 4: More of Fishing Community Between Imswan and Taghazout**



**Photo 5: Cooperative in Imswan**





Photo 6: Artisanal Fishing Vessels in Imswan



**Photo 7: Artisanal Fishing Fleet in Agadir**





**Photo 8: Bus Trek From Laayoune to Tan Tan**



**Photo 9: Hotel in Laayoune (Name refers to the Green March), UN Vehicle Parked in Front**



Appendix 4: IRB Approval Letter





**EMORY**  
UNIVERSITY

Institutional Review Board

Date: January 21, 2015

Thomas Lancaster, PhD  
Principal Investigator  
Political Science

RE: **Exemption of Human Subjects Research**

IRB00078785

Fishing from a nest: Exploring collective action, external disturbances, and Elinor Ostrom's eighth design principle of nested enterprises in Northwestern Africa

Dear Principal Investigator:

Thank you for submitting an application to the Emory IRB for the above-referenced project. Based on the information you have provided, we have determined on **1/20/2015** that although it is human subjects research, it is exempt from further IRB review and approval.

This determination is good indefinitely unless substantive revisions to the study design (e.g., population or type of data to be obtained) occur which alter our analysis. Please consult the Emory IRB for clarification in case of such a change. Exempt projects do not require continuing renewal applications.

This project meets the criteria for exemption under 45 CFR 46.101(b)(2). Specifically, you will conduct interviews of local fishermen in Morocco.

- The following documents were reviewed in this submission:
  - Protocol, modified date: 12/13/2014
  - Interview Instrument IRB
  - revised online consent, modified date: 1/20/2015
  - Winkler Signed consent, modified date: 1/20/2015
- A request to waive documentation of written/signed informed consent has been reviewed and approved under 45 CFR 46.117(c) (2): 1) the research presents no more than minimal risk of harm to subjects AND; 2) the research involves no procedures for which written consent is normally required outside of the research context.

Please note that the Belmont Report principles apply to this research: respect for persons, beneficence, and justice. You should use the informed consent materials reviewed by the IRB unless a waiver of consent was granted. Similarly, if HIPAA applies to this project, you should use the HIPAA patient authorization and revocation materials reviewed by the IRB unless a waiver was granted. CITI certification is required of all personnel conducting this research.

Unanticipated problems involving risk to subjects or others or violations of the HIPAA Privacy Rule must be reported promptly to the Emory IRB and the sponsoring agency (if any).



4/14/2015

<https://eresearch.emory.edu/Emory/Doc/0/33HD756CV3UKDDP3KDSU5D4I75/fromString.html>

In future correspondence about this matter, please refer to the study ID shown above. Thank you.

Sincerely,

Heather Smith, MS  
Education and QA Analyst Assistant

*This letter has been digitally signed*

CC: Doner Richard Political Science  
Lancaster Thomas Political Science  
Winkle Philip Emory College

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Emory University  
1599 Clifton Road, 5th Floor - Atlanta, Georgia 30322  
Tel: 404.712.0720 - Fax: 404.727.1358 - Email: [irb@emory.edu](mailto:irb@emory.edu) - Web: <http://www.irb.emory.edu/>  
*An equal opportunity, affirmative action university*

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<sup>1</sup> Artisanal fisherman. Interview. 22 December, 2014. Agadir.

<sup>2</sup> “Appropriation, provision, monitoring, enforcement, conflicts resolution, and governance activities are organized into nested enterprises” (Ostrom 1990, 90).

<sup>3</sup> This operationalization of this unit of analysis follows a recent reconstruction of Morocco’s marine fisheries catches by Dyhia Belhabib, Sarah Harper, Dirk Zeller, and Daniel Pauly. I also never found any significant presence either of mollusk gathering or fishing from land in Agadir.

<sup>4</sup> A prominent scholar on the Commons’ literature, Mark Imperial, echoes this definition. He states they are “enduring regularities of human action structured by rules and norms;” thus illustrating the ability of institutions to change human behavior (Imperial 1990, 453)

<sup>5</sup> It is interesting to note that Fleischman et. al’s (2014) study suggests mixed results as to what extent enterprises should be nested. In the Indonesian forest cases, for example, a move from Suharto’s dictatorship initially reduced levels of deforestation (Fleischman et. al 2014, 432). However, the Great Barrier Reef case is somewhat centralized but has achieved some significant results (Fleischman 2014, 443). More research will unveil what aspects of nested enterprises are important.

<sup>6</sup> Agadir is north of the border of Morocco and Western Sahara, and thus not a member of the disputed zone.

<sup>7</sup> Is this a worthy theory? Although the Western Sahara faces unusual circumstances, the underlying theory seeks to achieve Stephen Van Evera’s seven qualities of a good theory. The theory contributes to a much larger discussion on Ostrom’s design principles in an accessible and comprehensive way, and follows a testable logic that seeks to clarify the consequences of a longstanding international fiasco (Van Evera 1997, 17-120). Finally, the results provide critical insight to policymakers dealing with collective action problems and international disputes (Van Evera 1997, 21).

<sup>8</sup> By communal activities I mean the sharing of responsibilities or wealth between community members, and the formation or joining of cooperatives, associations, and unions.

<sup>9</sup> In Morocco’s central and southern fishing areas, the taxonomic composition of catches includes “sparids, sole (*Solea spp.*), surmullets (*Mullus spp.*), European sea bass (*Dicentrarchus labrax*), meager (*Argyrosomus regius*), conger (*Conger spp.*), groupers (*Epinephelus spp.*), cephalopods, bivalves and lobsters (*Homarus and Palinurus spp.*)” (Belhabib et. al 2013, 26).

<sup>10</sup> To: European Union and the United Nations in the Person of the Secretary General and his Representative in Western Sahara, Mr. Christopher Ross. Document from Email Correspondence. 4 February, 2013. Dakhla. The statistic is at least specific to Dakhla.

<sup>11</sup> Ethnic Sahrawis also live north of the border between Morocco and Western Sahara as well, but Sahrawis born and raised south of the border are entitled the rights granted by international laws (Mundy 2012, 97). Thus, it may be that ethnicity plays a role when the person is native to the Western Sahara.

<sup>12</sup> When the author contacted the NGO, Western Sahara Resource Watch (WSRW), he was connected to a lawyer at Smith and Partners LLP, and an ex-Sahrawi fisherman/civil society activist who had worked extensively with associations in Dakhla. Through that contact, various emails, documents, and personal testimony were provided to the author for use in this analysis. Some of these documents are written with “Confidential” in the

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heading, and carry signatures of people other than the informant. For this reason, the author holds these documents close to protect his sources.

<sup>13</sup> The current representative is coincidentally the president of COPMAS as well.

<sup>14</sup> The author owes much of his success to translators and friends more familiar with the languages and local dialects

<sup>15</sup> The Sahrawi fisherman has been exiled from the industry in Dakhla because of his public stance on the Western Sahara issue, and is active in Brussels to further the cause of his peoples' human rights.

<sup>16</sup> Please see Data Sources, situated after references, to see how the maps were created and where the coordinates come from. For some of the cities located on the map, I used Google Maps when it was unavailable at the National Geospatial-Intelligence Agency's website. When using that site, my coordinates came from the "populated place" link when they were available.

<sup>17</sup> Lawyer at Smith and Partners LLP. Skype Interview. 19 February, 2015. Atlanta, Georgia.; see also, International Court of Justice. 1975. 16 October, 1975. <http://www.icj-cij.org/docket/index.php?sum=323&p1=3&p2=4&case=61&p3=5>. 2 February, 2015. In the references

<sup>18</sup> "Upwelling is a process in which deep, cold water rises toward the surface," taking place when winds blow across the ocean's surface and remove the warmer water ("National Oceanic and Atmospheric Administration" 2015). These colder waters are rich in nutrients that "fertilize" the surface waters with high biological activities that are ideal for fishing.

<sup>19</sup> Mauritania had also claimed ties to the territory, but eventually withdrew these claims in the midst of international pressures.

<sup>20</sup> A key fact in this case is that France and Spain had seen Spanish Sahara (Western Sahara) as beyond Moroccan territorial influence during a 1912 agreement that established its borders (Mundy 2012, 99).

<sup>21</sup> According to Jacob Mundy, a so-called "Second Green March" occurred in 1991 as a reaction to the imminent arrival of a UN mission in Western Sahara. This is considered to be Morocco's largest resettlement effort there (Mundy 2012, 97).

<sup>22</sup> Les Provinces du Sud. Emailed Document. 8 March, 2015. Atlanta, Georgia.

<sup>23</sup> Dakhla Press Release. Document from Email Correspondence. 30 June, 2011. Dakhla.

<sup>24</sup> To: European Union and the United Nations in the Person of the Secretary General and his representative in Western Sahara, Mr. Christopher Ross. Document from Email Correspondence. 4 February, 2013. Dakhla.

<sup>25</sup> An alternate spelling (in English) of Imswan is Imsouane.

<sup>26</sup> Employee at Agadir's Delegation of Fishing 2. Interview. 8 January, 2015. Agadir.; Chamber of Fishing Employee 2. Interview. 14 January, 2015. Agadir.

<sup>27</sup> Chamber of Fishing Employee 2. Interview. 14 January, 2015. Agadir.; Three Association Officials (President, Vice President, and Treasurer) and Meeting. Interview and Meeting. 12 January, 2015. Agadir.

<sup>28</sup> Employee at Agadir's Delegation of Fishing. Interview. 23 December, 2014. Agadir.

<sup>29</sup> The author recalls that some cabinets have additional positions, but nothing as relevant as those listed.

<sup>30</sup> The Representative. Interview. 12 January, 2015. Agadir.

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<sup>31</sup> Chamber of Fishing Employee. Interview. 8 January, 2015. Agadir.; Chamber of Fishing Employee 2. Interview. 14 January, 2015. Agadir.

<sup>32</sup> COPMAS Official. Interview. 8 January, 2015. Agadir.

<sup>33</sup> Lawyer. Telephone conversation. 8 January, 2015. Agadir.

<sup>34</sup> Three Association Officials (President, Vice President, and Treasurer) and Meeting.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.

<sup>35</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>36</sup> These estimates do not account for catches caught by foreign vessels, and may thus be expected to be much higher.

<sup>37</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>38</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>39</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>40</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>41</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>42</sup> It is estimated that 8.5 percent of artisanal catches are taken home for consumption/subsistence.

<sup>43</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>44</sup> My hypotheses did not frame discussion around the Black Market, and is thus not central to this thesis. It is, however, a form of collective action worthy of future research. Had I known it would be so prominent I might have included it myself. However, because the nest is broken in the Western Sahara, the line between the black market and legal market is considerably difficult to differentiate. I felt that, going into my research, such an effort was beyond the scope of this study.

<sup>45</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir

<sup>46</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir.

<sup>47</sup> Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.

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<sup>48</sup> Three Association Officials (President, Vice President, and Treasurer) and Meeting. Interview and Meeting. 12 January, 2015. Agadir.

<sup>49</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>50</sup> Another situation that almost escalated into a riot occurred around 2013, when a new licensing law was imposed on wholesalers in order to better trace their activities. Wholesalers refused this law in order to avoid taxes. COPMAS, however, did purchase a license. According to the Representative (also President of COPMAS), in order to avoid a riot and mass unemployment, he initiated a deal with the relevant officials in to allow wholesalers to purchase their fish from fishermen under the name of the cooperative. Although the Representative claimed that COPMAS kept a small percentage of these purchases, another official at COPMAS alleged that this was larger and kept by the Representative. The cooperative has supposedly not seen any of the money it is owed. (This comes from the following interviews: The Representative. Interview. 12 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.)

<sup>51</sup> As time has passed, more and more fishermen favor the law as the new benefits have begun to take effect since 2013. This year is also cited as a major drop in the black market for that reason.

<sup>52</sup> COPMAS Official. Interview. 8 January, 2015. Agadir.

<sup>53</sup> National Office of Fishing Employee. Interview. 22 December, 2014. Agadir.

<sup>54</sup> If the market opens later, fishermen coming back from sea are forced to store their catch longer in the canoes. Without proper storage, the quality of fish decays.

<sup>55</sup> I draw from the following interviews: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.

Some of this process is unknown to the author, except that several functions allow the government to track the product to meet European standards and practices (Interview with Representative). Working from memory, fishermen must first weigh their catch at a kiosk near the new market. They then confirm with officials what has been caught (type of fish), how much it weighs, and are issued a ticket with those details. They then bring the fish to market, where legal buyers may bid on that product. It is likely that the government records which bidder purchases what.

<sup>56</sup> Three Association Officials (President, Vice President, and Treasurer) and Meeting. Interview and Meeting. 12 January, 2015. Agadir.

<sup>57</sup> Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir

<sup>58</sup> It is unknown to the author if this 10,000 Dirham fee is legal, or a form of bribery imposed by boats owners. It appears that fees fluctuate depending on the boat owner.

<sup>59</sup> This last point is significant because it appears the community is divisible into these two parts: legal and undocumented. Both have two separate sets of interests, and different expectations about the benefits and costs of protests. It is unclear whether financial status impacted undocumented and legal fishermen differently.

<sup>60</sup> Artisanal fisherman. Interview. 22 December, 2014. Agadir.

<sup>61</sup> Employee at Agadir's Delegation of Fishing. Interview. 23 December, 2014. Agadir.

<sup>62</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January,

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2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir

<sup>63</sup> This statement is qualified because there are less poor (relative to other artisanal fishermen) fishermen willing to take the risk. It is reported that wealthier community members are able to pay bribes that allow them to continue illegal sales.

<sup>64</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir

<sup>65</sup> Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.

<sup>66</sup> Two Employees at the APP Office. Interview. 13 January, 2015. Agadir.

<sup>67</sup> It was evident that the leader of COPMAS was involved in an ongoing conflict with the Association. As observed at an association meeting, officials blamed the representative for the grievances of artisanal fishermen. One official said that the representative “flipped him off” when he tried to defend artisanal fishermen. The Association frequently claimed credit for anything fishermen saw as a success, such as all of the new retirement and benefit programs. However, the representative refuted all of this. On the contrary, he claimed that one of the officials is largely responsible for the black market in Agadir and is using the association as a façade to operate illegal activities. (This comes from the following interviews: The Representative. Interview. 12 January, 2015. Agadir.; Three Association Officials (President, Vice President, and Treasurer) and Meeting. Interview and Meeting. 12 January, 2015. Agadir.)

<sup>68</sup> Two Employees at the APP Office. Interview. 13 January, 2015. Agadir.

<sup>69</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>70</sup> Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.

<sup>71</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2.

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Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir

<sup>72</sup> A bureaucrat at the Chamber of fishing said during an interview that a union for artisanal fishermen did exist, but none of the fishermen in Agadir confirmed this. Whether this is a mistake by the bureaucrat, or an example of severe isolation of individuals from their community is unknown. Chamber of Fishing Employee. Interview. 8 January, 2015. Agadir.; Chamber of Fishing Employee 2. Interview. 14 January, 2015. Agadir.

<sup>73</sup> Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.

<sup>74</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir.

<sup>75</sup> Three Association Officials (President, Vice President, and Treasurer) and Meeting.

<sup>76</sup> The Representative. Interview. 12 January, 2015. Agadir.

<sup>77</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2. Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir.

<sup>78</sup> A union is perhaps the most significant type of organization for collective action because it is legally the only formal organization able to make general goals that indirectly support non-members in the artisanal fishing community.

<sup>79</sup> Fishermen cultivated a strong respect for this fisherman, even though the union he attempted to form was for a separate sector. He is considered a member of the community because his stand for fishermen's rights and against corruption had stood for artisanal fishermen's interests as well.

<sup>80</sup> I draw from interviews with Artisanal fishermen and merchants (who had been fishermen at one point). They are the following: Artisanal fisherman. Interview. 22 December, 2014. Agadir.; Artisanal Fisherman 2. Interview. 31 December, 2014. Agadir.; Artisanal Fisherman 3. Interview. 5 January, 2015. Agadir.; Artisanal Fisherman 4. Interview. 6 January, 2015. Agadir.; Eight Artisanal Fishermen. Interview. 9 January, 2015. Agadir.; Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.; Two Artisanal Fishermen. Interview. 31 December, 2014. Agadir.; Two Artisanal Fishermen 2.

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Interview. 8 January, 2015. Agadir.; Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir.

<sup>81</sup> Six Artisanal Fishermen 2. Interview. 7 January, 2015. Agadir.

<sup>82</sup> Missing 2004 and 2005.

<sup>83</sup> Two Ex-Artisanal Fishermen/Merchants. Interview. 30 December, 2014. Agadir.; Lawyer at Smith and Partners LLP. Skype Interview. 19 February, 2015. Atlanta, Georgia.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.; Twelve Artisanal Fishermen. Interview. 10 January, 2015. Agadir.

<sup>84</sup> Employee at Agadir's Delegation of Fishing. Interview. 23 December, 2014. Agadir.

<sup>85</sup> Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.

<sup>86</sup> Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.

<sup>87</sup> Chamber of Fishing Employee. Interview. 8 January, 2015. Agadir.; Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.

<sup>88</sup> For more information on human rights abuses within the Western Sahara more generally, I suggest reading the U.S Department of State's Human Rights Reports as listed in the Appendix.

<sup>89</sup> Thirteen Artisanal Fishermen. Interview. 11 January, 2015. Agadir.

<sup>90</sup> Les Provinces du Sud. Emailed Document. 8 March, 2015. Atlanta, Georgia.

<sup>91</sup> Lawyer at Smith and Partners LLP. Skype Interview. 19 February, 2015. Atlanta, Georgia.; Ex-Sahrawi Fisherman/Civil Society Activist in Western Sahara. Email Correspondence. 9 March, 2015. Atlanta, Georgia.

<sup>92</sup> To: European Union and the United Nations in the Person of the Secretary General and his Representative in Western Sahara, Mr. Christopher Ross. Document from Email Correspondence. 4 February, 2013. Dakhla.; To: Mr. Belgian Ambassador. Document from Email Correspondence. 4 November, 2013. Dakhla.; Letters from Associations. 4 February 2013. Dakhla.

<sup>93</sup> Dakhla Press Release. Document from Email Correspondence. 30 June, 2011. Dakhla.

<sup>94</sup> Ex-Sahrawi Fisherman/Civil Society Activist in Western Sahara. Email Correspondence. 9 March, 2015. Atlanta, Georgia.

<sup>95</sup> Dakhla Press Release. Document from Email Correspondence. 30 June, 2011. Dakhla.

<sup>96</sup> Lawyer at Smith and Partners LLP. Skype Interview. 19 February, 2015. Atlanta, Georgia.

<sup>97</sup> Lawyer at Smith and Partners LLP. Skype Interview. 19 February, 2015. Atlanta, Georgia.

<sup>98</sup> Ex-Employee of Imswan Cooperative. Interview. 15 January, 2015. Agadir.

<sup>99</sup> Ex-Employee of Imswan Cooperative. Interview. 15 January, 2015. Agadir.

<sup>100</sup> Six Artisanal Fishermen. Interview. 29 December, 2014. Taghazout.

<sup>101</sup> Six Artisanal Fishermen. Interview. 29 December, 2014. Taghazout.

<sup>102</sup> Six Artisanal Fishermen. Interview. 29 December, 2014. Taghazout.

<sup>103</sup> The following is a note on Figure 3 (sequence of variables): the underlying political environment, defined as a broken nest, appears to amplify or lead to other discovered variables discovered during the field research. The boxes between the arrows may also be impacted by other variables such a history of fishing in the city. Furthermore, the boxes between the arrows do not operate in a vacuum. There appears to several instances wherein they exist in some relation to one another (an example being that military presence seems to negatively affect the presence of third parties). However, such relationships require future research.



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<sup>104</sup> The author largely infers this factor, as it was at only mentioned in passing during interviews as a possible reason.