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An Exploration of Links Among Recognition, Autonomy, Social
Capital, and Institutional Performance in a Mexican Fishery

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Evidence of collective action among individuals to resolve problems associated with the use of shared resources has sparked the interest of researchers and policy makers. Groups of individuals have demonstrated their ability to overcome conflicts between individual and collective rationalities posed by the use of shared resources, often through the creation and maintenance of institutions for common pool resource (CPR) management. Such cooperation has led to outcomes that run contrary to predictions of ecological and economic disaster that have emerged from interpretations of Olson's *Logic of Collective Action* (1965) and Hardin's "Tragedy of the Commons" (1968). CPR institutions are of interest not only for the challenge they pose to prevailing theory of CPR use, but also for their practicality as low cost alternative or complementary mechanisms for resource management.

Recent work has been directed toward integrating experimental and empirical findings on individual and collective behavior in commons and public goods toward the specification of conditions for such CPR institutions (see, for example, Berkes and Kence 1987; NRC 1986; Ostrom 1990). Ostrom's *Governing the Commons* (1990), for example, provides a framework for the analysis of CPR institutions and presents a set of design principles, or hypothesized conditions, for the emergence and maintenance of CPR institutions.¹

One design principle, minimal recognition of resource users' rights to organize, suggests resource users must have some degree of autonomy to allow them to create institutions or adapt them to local conditions. The idea of recognition and the autonomy it implies provide a fundamental challenge to traditional theory of collective action because it allows for endogenous solution to CPR problems, as an alternative to external coercion. When resource users are given the autonomy to devise and implement their own institutions, costs generated by problems (externalities) and their resolution (through monitoring and enforcement) can be internalized to the group, saving external authorities time and money. Yet, such autonomy is threatening because it challenges traditional hierarchies of power relationships, as well as the presumption that resource users are passive in regard to resource management (Esman and Uphoff 1984; McGoodwin 1990).

An organization's (and its members') autonomy is reflected in physical, administrative, and psychological distance from

¹ Ostrom's design principles include: clearly defined boundaries, good-fitting rules, collective choice arrangements, monitoring, graduated sanctions, conflict resolution mechanisms, minimal recognition of rights to organize, and nested enterprises (1990:90).

authorities. Resource users located physically and politically further from the center of governance usually have greater autonomy (Ostrom 1990). Autonomy reflects actual or *de facto* recognition of resource users' rights to organize, which can legitimize the group in the eyes of both members and non-members. It is expected that greater autonomy will allow a group to be more active in establishing and modifying institutions to work toward congruence with local conditions. Such "good-fitting" rules then increase incentives for cooperation (Ostrom 1990). A lack of autonomy, in contrast, may inhibit institutional development. Berkes and Feeny (1990) suggest that effective hegemony by government resource managers often leads to worsened problems by undermining users' responsibility for the resource system.

The relationship between autonomy and institutional performance was investigated in a recent study of three fishers organizations at Lake Chapala, Mexico (Pomeroy 1993).² The study explored the relevance of selected factors to individual cooperation and collective action to resolve problems associated with the common pool fishery among the members of the Chapala Union and the Chapala Cooperative, and the San Pedro Tesistán Union.³ The organizations were viewed as institutional structures and as fora for the creation and maintenance of local CPR institutions.⁴

The study found that the most autonomous organization ranked second rather than first on institutional performance while the organization with moderate autonomy achieved the best institutional performance. Only in one case did the hypothesized relationship occur: the least autonomous organization was found also to have the lowest institutional performance. The results supported Esman and Uphoff's (1984) assertion that a high degree of autonomy does not necessarily correlate with strong institutional performance. Rather, it is the nature and strength of ties (or conversely autonomy) that are important to successful

² The study assessed fishers' perceptions of and responses to resource conditions, described social dilemmas associated with CPR use, and investigated the influence of individual and institutional factors on fishers' efforts to coordinate CPR use. Data were collected from October 1991 through April 1992 using a survey interview, observation, informant interviews, and documentary and archival research.

³ These organizations were selected to represent three gradations of autonomy, to enable examination of the relationship between autonomy and institutional performance.

⁴ Ostrom's (1990:216) scope conditions specify endogenously created CPR institutions to be examined for institutional performance. However, the boundary between appropriators and others is not necessarily clear. Members of the organizations studied included fishers (appropriators), buyers (non-appropriators), and some who played both roles.

local institutional development. Specifically, a lack of psychological autonomy (a factor not considered by Ostrom) counteracted the positive effects of physical distance and administrative freedom on groups' ability to address and resolve CPR problems through collective action. This finding demonstrated that physical and administrative autonomy may not be sufficient to enable the generation and use of social capital to resolve CPR problems.

The findings raised further questions regarding the relationship between autonomy and institutional performance in CPR settings. The first question was whether members of CPR organizations have the capacity to use the organization for collective action. The second was how the configuration of autonomy interacted with that capacity to inhibit or enhance institutional performance.

Institutional capacity may be found in social capital among a group of resource users. Broadly defined, social capital is the set of resources inherent in family relations and community social organization that individuals can use to achieve desired ends (see Coleman 1990:300 on Loury 1977). It is found in information shared by individuals, norms, and relations of authority, and can be used to constrain or otherwise influence human behavior (Coleman 1990). It thus can be used to create, maintain, or destroy CPR institutions; by enabling resource users to capitalize on autonomy or overcome the lack thereof, it can mediate institutional performance. Yet like CPR institutions, social capital is public-good like, and is sensitive to external recognition and resource user autonomy. Social capital is created and maintained by individuals' use of their social relations to achieve desired ends. An absence of external recognition and autonomy may destroy social capital, and prevent it from contributing to or enhancing institutional performance.

In this paper, I explore the links among external recognition of rights to organize, autonomy, social capital, and institutional performance for three Lake Chapala fishers' organizations. I start with the premise that the organizational structures lend stability to social networks among fishers (Coleman 1990). Also, although they were created for a particular purpose, they can be used to achieve other ends as well (Coleman 1990). I consider selected factors deemed important to the creation and use of social capital (see Lachmann 1978; Coleman 1990). I emphasize the role of one factor, ideology, in the establishment, maintenance and performance of the organizations. I use examples of CPR problems encountered by each group to highlight interactions among autonomy, ideology, and the use of social capital and their impacts on organizations' resolution of those problems.

The Lake Chapala Fishery-

Lake Chapala, located 48 kilometers southeast of Guadalajara, Jalisco, Mexico, is the third largest lake in Latin America. The lake is the focal point of the five-state Lerma-Chapala-Santiago watershed, and itself covers 1,100 square kilometers in two states, Jalisco and Michoacan. The watershed provides water, energy, and waste disposal for irrigation agriculture, industrial and municipal use. The lake itself also supplies 80% of nearby Guadalajara's demand for potable water (Limón unpublished), and supports tourism and fishing.

The lake's small-scale commercial fishery involves an estimated 2,500 fishers (PESCA 1990) who use stationary gear (i.e., nets, traps, and longlines) to catch goldfish (*Carassius auratus*), carp (*Cyprinus carpio*), catfish (*Ictalurus dugesi* and *J. ochoterenai*), and tilapia (*Tilapia aurea*).⁵ Most use wooden or fiberglass skiffs, some of which are equipped with outboard motors. The only mobile gear used is the atarraya (cast net); both it and the *mangueadora* (anchored haul net or seine) are used to catch *charal* (*Chirostoma* spp.). The *atarraya* may be cast from a boat, public shoreline, or federally owned parcels of land, known as *ranches charaleros* that fishers lease from the government. The *mangueadora* is worked by two people from a long, narrow boat. Most fishers sell their catch to buyers who then sell the fish whole, eviscerated, or fileted; others sell directly to local consumers. Most *charal* fishers sell to one of three processors who market it locally through street vendors; a fraction is distributed to Guadalajara, Monterrey, and Mexico City.

Three Fisheries Secretariat (PESCA) offices in two states have jurisdiction over Lake Chapala fisheries: the Chapala and Ocotlán offices in Jalisco, and the Sahuayo, Michoacán office. The Chapala office's jurisdiction is the largest, with authority over 43% of the lake's organized fishers and 60% of the lake. The Ocotlán and Sahuayo offices have authority over 40% and 17% of organized fishers, and 30% and 10% of the lake, respectively. There is no management coordination (e.g., regulations, closures) between the Jalisco and Michoacán offices.

Lake Chapala Fishers' Organizations

Prior to 1980, just over 10% of Lake Chapala's fishers were members of fishing organizations (Paré 1989). In 1984, PESCA

⁵ Although estimates vary, the Fisheries Secretariat (PESCA) reported about 1,600 fishers registered in 53 unions and five cooperatives and 900 unregistered fishers (called *Pescadores libres* or "free" fishers) at Lake Chapala in 1989 (1990:51). According to Paré (1989), there may be as many as 3,000 unregistered fishers.

authorities adopted a policy requiring fishers to form unions and cooperatives, as an administrative expedient (Paré 1989).⁶ A few organizations, including the Chapala Union, had been formed previously (independent of this effort), but most were formed between 1984 and 1986.

The primary purposes of Lake Chapala's fishers' organizations are to enable fishers to secure a fishing permit, to enhance PESCA's direct and indirect monitoring of fishers, and to facilitate its dissemination of information (e.g., about regulations).⁷ Fishers' organizations also could be used to serve fishers' common interests in the fishery, and therefore constitute a potential source of social capital (Coleman 1990:312). In fact, authorities assumed fishers would use unions and cooperatives to benefits themselves and their families (e.g., by registering for social security, setting up education and mutual aid funds).

More broadly, these organizations could be used to enhance networks of social relations among fishers, and between fishers and buyers (some of whom are fishers also). Although not explicitly considered by authorities, such organizations could serve as mechanisms for resolving CPR problems through endogenous institutional development. A fishers' organization fosters conditions deemed important to the creation and maintenance of social capital (Coleman 1990: 320). Specification of group membership contributes to closure of the social structure of its members. Stability is provided by the organizational structure itself, which counteracts the instability created by members' mobility, and the potential this has for destroying social capital (Coleman 1990:320). Ideally, the organization reflects an ideology conducive to commitment and participation by establishing members' rights and obligations, and promoting their involvement in group decision-making, including problem-solving and conflict resolution.

Fishers' organizations provide a forum for repeated interactions among individuals regarding their activities and interests as fishers. The organization complements fishers' established patterns of social interaction with other fishers, buyers, and the larger community. Regular face-to-face interaction afforded by monthly meetings and other group activities enables communication and information exchange. Such

⁶ By 1990, there were 61 Lake Chapala fishers' organizations, including 53 unions, seven cooperatives, and one solidarity group (PESCA 1990). In 1992, the Chapala PESCA office had authority over 22 unions and four cooperatives, including the organizations in this study.

⁷ Individual permits were required beginning in 1971. In 1989, the state office shifted to its policy of granting permits only to organizations, thus creating an additional incentive for joining a group.

interactions can help reduce differences in information across individuals, help coordinate expectations relative to the CPR, the organization, and others' behavior. Coordination of information and expectations can foster shared social identity among members that both directs individual attention outward "toward others and induces them to consider others' interests as well as their own. Over time, experience that creates and fulfills positive expectations can promote trust among members. Expectations also may evolve as norms or as rules monitored and enforced by the group. In other words, the organization is a mechanism for the development and use of social capital based on the social relations that exist or are fostered among its members.

The fishers' organizations studied were constrained most directly by PESCA's permit and fee requirements, regulations, monitoring and enforcement, and sanctioning activities.⁸ The local PESCA chief has deferred the responsibility for admitting and expelling members to each group, suggesting individuals who want a fishing permit seek admission to the organization based in the town where they live or fish.⁹ Similarly, he recommends non-residents of a community ask the local group permission to fish nearby. Only charal ranchers, however, have a legal right of exclusion.

Groups are allowed to set rules governing resource use and organizational maintenance, provided they are consistent with PESCA regulations. For example, most groups have a rule that requires members set their gear at a minimum distance from others' gear, and one that prohibits *apaleo* (striking the water to scare fish into nets). Although fishers have no formal role in the drafting of regulations, some organizations have challenged them on occasion.¹⁰

Each group is structured to enable the creation and maintenance of agreements (i.e., collective choice arrangements) and conflict resolution among its members. Decisions about dues payments and increases, admission and exclusion of members, and

⁸ All three organizations are subject to the authority of the Fisheries Secretariat (PESCA), the Municipal Presidency, the Port Authority, the Secretariat of Agriculture and Water Resources (and the National Water Commission), and the Secretariat of Ecology and Urban Development. Only the Cooperative falls under the jurisdiction of the Secretariat of Labor and Social Provision and the Federation of Cooperatives (see Pomeroy 1993).

⁹ Although one could obtain a permit by going directly to the Guadalajara PESCA office, the high cost (in fees, time, and travel) and the risk of trouble with organized fishers and authorities deterred most fishers.

¹⁰ For example, when the catfish closure was extended from one to four months, several groups coordinated a protest before local and state authorities and the closure was shortened.

use of an unregulated gear are made in group meetings. Each group also has internal mechanisms and access to external arenas for conflict resolution. If a conflict cannot be resolved directly, fishers can go to either the vigilante or its president for mediation. When conflicts cannot be resolved internally or involve a party external to the group, the local PESCA office provides a convenient, low-cost arena for conflict resolution.

The principal area in which fishers clearly lack autonomy is enforcement. In exchange for their permits, fishers are expected to report resource problems and legal infractions to authorities. While they may "call the attention" of (i.e., confront) a person breaking the law, they are prohibited from taking further enforcement action, which is the exclusive domain of external authorities. However, they may sanction members for misconduct within the group.

The Cooperative's administrative autonomy is further constrained by its ties to the Labor Secretariat. Cooperative Law and Regulations (SARH 1938a; 1938b) outline explicit procedures for virtually all organizational activities. Although the group may admit and exclude members and establish internal agreements, it is required to maintain written accounts of its activities and submit them to the Secretariat for review and approval. Required membership in the quasi-governmental Federation of Fishers' Cooperatives is a further constraint. Federation authorities also review the Cooperative's books to insure it adheres to procedure, require the group to send an elected delegate to Federation meetings at its headquarters in Barra de Navidad (located on the coast), and collect fees.¹¹ Finally, the Cooperative is not clearly recognized by fisheries authorities as the unions are, despite its obligations to report members' catch, pay fees, and abide by regulations.

The Establishment of Fishers' Organizations

The Chapala Union was established in the early 1960s by a local *cacique* (political boss) and fish buyer who sought to build his political strength and insure himself a constant supply of fish. "Don Isabel" was a charismatic leader who had strong social and economic ties with fishers in and around the town of Chapala. The formation of the union was, in effect, a formalization-and extension of the patron-client relationship between him and local fishers.

The resources and interests of fish buyer and fish producer

¹¹ Because the Cooperative's affiliation with the Federation is mandatory, its value as a nested enterprise arrangement (see Ostrom 1990) is more of a constraint on its autonomy than a source of institutional strength.

were heterogenous, but complementary, suggesting they might be combined (i.e., transformed) to serve the group's and individuals' interests (Lachmann 1978). The union reinforced the economic and social complementarity between buyer and fishers in the patron-client arrangement, and made their respective social roles and obligations clear. Fishers developed expectations regarding their roles as producers, political supporters, and organization members, and regarding the support they could expect from their leader. Experience in these roles reinforced them and generated trust among fishers and that Don Isabel would fulfill his obligations.¹² The arrangement constituted important social capital for fishers by providing a reliable market for their product, insurance against sudden loss or hardship (in the fishery and beyond), and protection from potentially abusive authorities. The fulfillment of individual needs under this arrangement demonstrated the value of such an organization, and encouraged solidarity among its members. That solidarity was useful to Don Isabel in maintaining his political strength and extensive control of the fishing economy.

The patron-client relationship under which the Chapala Union was created had limited the development of fishers' endogenous capacity for institutional development by directing their attention to and confirming their dependency on the group leader (whose role was distinct from their own). Yet, the complementarity of resources between buyer/leader/patron and fisher/member/client actually generated and perhaps enhanced social capital useful to their situation at the time..

Don Isabel's death in 1981 revealed the fragility of the institutional capacity created among fishers under the patron-client arrangement. Disputes over who should lead the group resulted in the emergence of three factions.. Local PESCA authorities took advantage of the group's leadership vacuum to break its power base.¹³ They encouraged one faction to form a separate fishing cooperative, and recognized a set of common fishers rather than the former leader's son as the organization's

¹² The closure and stability of this set of relations seems also to have fostered norms of resource use, including maintaining a minimum distance between one's own and others' gear and measured resource use in the charal ranches.

¹³ Previously, PESCA's low profile as a subdirectorate of a government department (rather than an independent agency) and subordination to local political leaders had prevented it from interfering with the group; according to authorities and fishers alike, "PESCA was at the foot of the union." In the late 1970s, however, the fisheries department became the Secretariat of Fisheries (SEPESCA), and began to assert its authority through fishery development and management activities.

legitimate new leaders.¹⁴ Recognition of one faction over another forced a transformation of the members' social relations and relations of authority. The internal tension created likely destroyed some social capital among members, but the new arrangement closed the gap between leaders and members, and encouraged fisher control of the organization's internal affairs (i.e., operation and maintenance). At the same time, authorities enhanced their control (over both groups) by offering material and administrative support, including a set of guidelines on how to form and run a fishers' union. Authorities thus replaced the union's patron-clientism with government paternalism. This type of ideology coupled with material and administrative support is cited by Coleman (1990) as destructive to endogenous social capital.

Although the creation of the Chapala Cooperative entailed the efforts of a subgroup of fishers from the Chapala Union, it was used by authorities to gain a foothold in the fishery. PESCA and the Secretariat of Labor offered material incentives and promised those who formed the cooperative "more guarantees" (i.e., government bonding for bank loans, and legal recourse for complaints against each other and authorities). These official sources of support substituted for Don Isabel's leadership, and protection, and for the social capital he helped generate. The replacement of patron-clientism with government paternalism directed fishers' attention and loyalties toward authorities (external to the group), and thereby inhibited the development and use of endogenous social capital.

The administrative requirements imposed by external authorities hindered the group's autonomy to admit or expel members and to create, modify, and enforce rules. The perceived complexity and inflexibility of cooperative structure and function was daunting to members, who lacked experience in the various roles prescribed by the guidelines and the required managerial skills.

The San Pedro Union was formed in 1985 as part of the PESCA's policy of requiring fishers to form organizations. Government paternalism played a large role in the group's formation. (Fishers previously had not been engaged in patron-client relations in the fishery.) Prior to formation of the organization, only a handful of individuals fished for profit; subsistence fishing was more common. Most fishers also were members of the local *ejido*, or farming cooperative; their social relations and related experiences in the *ejido* constituted social capital that might be directed toward the fishery.

¹⁴ The son apparently lacked his father's charisma and reputation, and was not broadly supported by fishers.

Unique among the three organizations studied, the San Pedro Union became involved early on in a coalition of south shore fishers' organizations sponsored by Educación y Desarrollo del Occidente, A.C. (EDOC). EDOC, one of three non-profit organizations that sponsored community development projects around the lake in the early 1980s, targeted newly organized south shore fishers to help raise regional environmental consciousness. It showed coalition members how they could build on their natural and organization-induced ties to develop institutional capacity to address shared problems. EDOC facilitated meetings among fishers to exchange information, develop mutual understanding and solidarity, and work toward resolving shared problems. It encouraged the complementary use of individuals' and groups' resources to develop and use their social capital constructively.

One of the tactics fishers learned was public protest before the three agencies with primary responsibility for the lake (i.e., PESCA, the Water Resources Secretariat, and the Secretariat of Ecology and Urban Development). PESCA in particular resented accusations that it failed to fulfill its mandate, and viewed them as a challenge to its authority.¹⁵ The San Pedro Union and several other organizations dropped out of the coalition when PESCA threatened to withhold future aid and fishing permits if fishers continued to work with EDOC. Evidently, coalition members' newfound social capital was too fragile to hold out against the perceived strength of the government agency.

By the mid 1980s, the three organizations were operating with limited autonomy from authorities which reflected and reinforced dependency on government paternalism. The substitution of government paternalism in the Chapala Union and Cooperative and its imposition in the San Pedro case engendered dependency. By directing fishers' attention toward external authorities as the complement to their own capacities, authorities induced fishers to rely less on their capacities for collective action and endogenous institutional development. The loss of attention to endogenous sources and uses of social capital paved the way for its deterioration.

Organizational and Institutional Performance

Fishers' efforts to address various CPR problems through their organizations reflected the interaction between their

¹⁵ PESCA fought back with a negative publicity campaign. One article reported that EDOC was part of a scheme by the U.S. Central Intelligence Agency and French intelligence to destabilize the Mexican government (Sandoval Lara 1986).

restricted autonomy (and governmental paternalism) and the use of social capital to resolve them. Some examples from each organization studied are presented here.

Fishers' incentives to join an organization included offers of government support (e.g., gear discounts, loans), protection from sometimes abusive colleagues and authorities, as well as legal recognition of one's right to fish. As many fishers said, "the union is a force," an entity more powerful than an individual in the face of external threat (e.g., local authorities). Most also understood that the only way they could obtain a permit was by joining a group. Moreover, they understood either through experience or word of mouth that one who fished free, or not allied with a union or cooperative, would be challenged when he tried to fish in certain areas or sell his catch.

Yet, once an individual received his permit and identification card, he had little further incentive to contribute to the maintenance of the organization (e.g., pay dues, attend meetings, or contribute to the maintenance of the organization and the CPR). The lack of compliance was evident in low meeting attendance, discussions of members' failure to pay group dues, and fishers' complaints about the lack of compliance and "conscience" among fishers. Less than one-third of the Chapala Union's members attended each of the four meetings that occurred during the study. This low attendance rate notwithstanding, business could be conducted with the 50 or 60 (instead of 180) present. A slightly lower attendance rate (about 25%) among Cooperative members was debilitating, however, not only because of the group's small size, but also because cooperative regulations require two-thirds of the group's members be present to achieve a quorum (SARH 1938b). (Members of the Cooperative interpreted the law and regulations literally in some cases, as here, and ignored it in others.) About 70% of San Pedro's members attended the first two meetings of the study period, but subsequent meetings were canceled when the PESCA officer failed to show up.

Members' failure to comply with these basic requirements of group membership constituted problems of institutional supply. By not contributing to the group with dues and attendance at monthly meetings, noncomplying fishers were free riding on the cooperation of others. These fishers were criticized for being members of "pure convenience." They took advantage of the benefits of group membership (e.g., a permit, access to gear discounts, protection from authorities and fishers from other groups), while others paid the costs. Fishers who did not join a group were criticized for taking advantage of the benefits of the fishery without paying the costs of group membership. Many organized fishers blamed these fishers for exacerbating low prices by flooding the market with fish and many said they were

becoming increasingly frustrated about others' free riding.¹⁶ This situation reflected a lack of social capital to motivate individual, voluntary cooperation, and indicated a growing assurance problem that could lead to more non-compliance. Fishers' experience with others' non-compliance was destructive of social capital because it engendered mistrust and low expectations of others and the organization's capacity for institutional performance.

For the Chapala Union, the primary problem was one of institutional supply manifest in members' failure to pay dues for the festival of San Francisco. The festival is an annual community event in which the Chapala Union plays a large role; members share the costs of food and fireworks.¹⁷ While not directly related to institutional supply to coordinate CPR use, fishers' cooperation fulfills a social obligation, generates prestige, and promotes their positive image in the community. The festival helps build social capital with the larger community, which can be used as leverage to resolve problems with other groups and local authorities. It also can be useful to build solidarity among members. For the 1991 festival, nearly one-half of the union's members failed to pay, so the union president and secretary provided (i.e., loaned) the money. At union meetings over several months, the list of unpaid members was read aloud. Sharing this information with the group was a form of sanction, which was accompanied by a threat of expulsion to be backed by submitting the names of expelled members to local fisheries authorities. Over time, the list was revised as some members paid; apparently the threat of exclusion (and perhaps side threats from colleagues) was sufficient to gain compliance of all but 27 members.¹⁸

The course of events demonstrated the possible uses and limits of the union's social capital. The low level of voluntary compliance suggests fishers expected others or the organization itself to cover the costs of providing collective benefits. Group leaders' initial compensation for those who had failed to

¹⁶ Noncompliance with basic group requirements was a type of "chicken game," as described by Taylor (1987). Each fisher knew that if most others complied with the requirements, the group would continue to provide a permit (a non-divisible good) and protection to anyone who could say he was a member. As long as rules of membership were not enforced, one could continue to derive benefits without cost.

¹⁷ An additional though less significant dues payment at issue was for membership in the Mexican Confederation of Workers. The vertical linkage afforded the group legal and other advisory resources in exchange for the annual dues payment. The union's voluntary membership in the Confederation represented a nested enterprise arrangement (see Ostrom 1990).

¹⁸ By the end of the study the list of non-compliers' had not been passed to the PESCA office for enforcement action.

contribute provided a substitute for fully endogenous, shared institutional supply. The situation had strong undertones of the patron-client ideology of previous times. Efforts to address the problem through the union assembly, however, suggested that the directors (and perhaps others) believed that social relations among group members, concerns about one's reputation and fairness would induce cooperation. Yet, the limits of that endogenous capacity for obtaining members' compliance were evident in the ultimate threat to submit the list to PESCA authorities. The ultimatum reflected dependence on authorities for enforcement of the group's decisions. The shared knowledge among complying and non-complying members that authorities were unlikely to take action made the threat somehow hollow.

Another way of addressing problems occurred through fishers' informal social networks, based on more localized ties. Most of these subsets were composed of extended kin or close neighbors, although some were based on shared use of a launch site or fishing area. These "grupitos" (little groups) of fishers worked together to resolve gear and space conflicts and kept an eye on each other's gear. Some fishers used these social relations to coordinate the removal of water lily that blocked their launch and fishing sites.¹⁹

Scorpion Island charal ranchers formed one such subgroup. During the four-month high season for charal, ranchers live and work continuously on the island. Their isolation from non-ranching union members and the larger mainland community has promoted closure and stability among them. They have daily opportunities for face-to-face interaction, information exchange, mutual assistance, and the development of shared expectations and trust. Their common experiences and interests as charal ranchers suggest that they may have similar beliefs and norms related to CPR use. They thus have multiple opportunities for creating and maintaining social capital based on their similar activities and interests.

In 1985, when the union's interest in Scorpion Island charal ranches was threatened by external interests, Chapala union members mobilized sufficient social capital to gain internal and PESCA support for an accord with the Chapala Cooperative to allocate ranches among the two groups. By the accord, the larger, more stable and externally powerful union secured exclusive claim to Scorpion Island ranches, while the smaller, weaker Cooperative was allotted the adjacent, small, and inferior

¹⁹ In some cases, however, there was clear animosity, even among extended kin, that prevented fishers from using their commonalities as the basis for mutual aid or other collective action.

"islote" for ranching.²⁰ Union members then collectively pressured non-union ranch holders (fishers from south shore communities) to give up their ranches or join the group.

The Scorpion Island accord was both a success in institutional performance and a source of social capital. It gave members in general and ranch holders in particular a sense of efficacy and power. That the accord was witnessed by local PESCA authorities effectively recognized the organization's authority over the use of Scorpion Island ranches (provided, of course, fees, permits and other agency requirements have been met).

Shortly afterward, however, authorities from the Water Resources Secretariat (SARH) made changes in the ranch system that curtailed ranchers' autonomy and the security of their leases. Traditionally, ranchers secured their leases to lakeshore land with 99-year contracts with SARH, and paid a nominal annual fee for the right of usufruct. PESCA's efforts to develop and manage the fishery included a move to expand the fishery and formally measure and mark the ranches. The formalization of the fishery transformed the ranches into valuable property. SARH canceled the 99-year leases and replaced them with two-year contracts and a bi-annual fee system.

Fishers report that prior to government intervention to "rationalize" the territorially based fishery (see Pomeroy 1993), ranchers fished only at night and tended their ranches during the day. The relatively less intensive use of the ranches limited pressure on fish stocks and allowed spawning to occur while still enabling ranchers to catch and effectively market charal. With the modification of authority and external interest in the system, norms of use changed. Individuals are expected to maintain their ranches and maximize their catch throughout the season, or risk losing them to a fellow union member. This pressure, coupled with scarcity of other sources of income, subordinated the norm of measured use that had operated previously.²¹ Also, PESCA supplanted prior rules and norms associated with ranch use with its own mandates in the interest of developing the fishery and promoting it as an agency accomplishment in extensive aquaculture.²²

²⁰ Although the accord was signed in 1985, Cooperative fishers still resent the union and PESCA for it.

²¹ Several fishers cited this change as one of the reasons for the scarcity of charal in early 1992.

²² For example, management policy requires that fishers construct and maintain submerged incubation cages in their ranches to assist charal reproduction. Although this policy is not enforced, it has helped establish the agency as the ultimate decision-making authority.

Still, ranchers' recognition of their common interests led some to consider starting a union of island ranchers, either within the Chapala Union, or as a separate entity. A core group of 10 ranchers began to talk informally about organizing to deal with resource use issues, marketing problems, and territorial disputes with other island concession holders. About one-half of the ranchers agreed to support such a group, as evidence mounted that other group members did not share ranchers' special concerns.

Their capacity for collective action was tested as they confronted price collusion by buyers, increased ranch use fees, and resistance to formalizing their subgroup in 1991 and 1992. At the onset of the 1991-1992 season, buyers colluded in offering a starting price for charal lower than that of the three years before. The core group of ranchers called a meeting without the knowledge of the union leadership because none worked a ranch (although one owned one) and, importantly, the secretary was one of the colluding buyers. About one-half of the island ranchers joined attended, and agreed to withhold their catch from the colluding buyers until a higher price was offered or an alternative buyer was found. Following the meeting, several participants used their social relations with other ranchers to persuade most of them to join the boycott. The plan achieved limited success, due to some individuals' refusal to join the plan or failure to abide by it.²³ Eventually, the problem subsided when a new buyer entered the picture and sparked competition and price increases.

In January 1992, ranchers faced a second problem calling for collective action: SARH tried to collect additional, exorbitant use fees (by fishers' standards). Again, ranchers decided to combat the problem, this time by sending a representative and their petition to SARH headquarters in Mexico City. But several other ranchers were unwilling to support the effort, and contributions were insufficient to send a fisher representative. Instead, one rancher who also held a mainland farming concession went as a representative of the mainland agrarian association, and on behalf of his more cooperative rancher colleagues, carrying a petition signed by all who had contributed to his trip. Those who had contributed were rewarded for their cooperation by having their fees reduced. Some others went unilaterally (but at higher cost and risk) to SARH in Guadalajara and also succeeded in having their fees lowered. Those who did neither paid the full amount.

Ranchers' collective capacities were tested again by

²³ The secure, short-term benefit of selling to the buyers coupled with the risk of jeopardizing the trade relationship deterred some from joining the boycott.

resistance from Chapala Union leaders against their efforts to establish their own organization. At a meal following a union meeting held on the island for ranch-bound fishers during the high season, the union secretary (one of the buyers accused of price collusion) accused one of the organizers and his colleagues of bypassing union leadership to try to form a separate group. Whereas among themselves and in informal conversation ranchers had been secure in their plans to unite, this fisher backed down from his position, and defended ranchers' meetings as informal gatherings "to just talk over [their] problems." This incident reflected the fragility of the group's social capital, as suggested that paternalism operated even within the union. Following the meeting, the ranchers said they would continue to try to coordinate efforts to resolve shared problems, but it was unlikely they would form a separate group, or even a recognized subgroup within the union. The rancher group leaders explained said there was too much pressure against them from the directors of the union, which they could not overcome without the support of all their fellow ranchers.

Charal ranchers's differences with Chapala Union leaders, their dependence on external authorities, and their relative isolation and homogeneity interacted to influence their use of social capital among themselves. Ranchers' dependence on authorities was related to the attention they received from the local PESCA chief and the agency's aquaculture director, who both took a special interest in the ranches. Ranchers depended on these authorities' protection from other agencies (i.e., Water Resources and Ecology Secretariats) which had the power to abolish the ranch system.

Thus the friction with other group interests and authorities' constant attention to the ranchers limited the development of sufficient social capital among them and its use to address the problems discussed. In fact, that friction was in part responsible for their dependence on authorities. In addition, ranchers' isolation limited their access to broader social networks and related resources that might have empowered them. Their relatively homogeneous and limited entrepreneurial interests prevented them from developing, for example, alternative marketing arrangements for charal to overcome their vulnerability to buyer price fixing.

The Cooperative's chief problem was one of institutional supply compounded by authorities' neglect. Shortly after the Cooperative's establishment, authorities stopped responding to the group's requests for technical and managerial assistance. Fishers saw contradictions between the Labor Secretariat's extensive bureaucratic requirements (e.g., maintenance of extensive records and frequent communication of this information to authorities) and its inattention to fishers' needs. The group then turned to local PESCA authorities for help, but to no avail.

Authorities' neglect led to unfulfilled expectations and mistrust, rather than stimulating the use of within-group social relations and resources (i.e., social capital) to strengthen the group (as hypothesized by Gow et al. 1979). For the Cooperative, however, it exacerbated problems arising from members' limited experience with the operation of a cooperative. The cooperative structure with its myriad councils and requirements was daunting to members who lacked technical and managerial skills presumed in the guidelines, as well as an awareness of their roles in such an organization. This problem was solved temporarily by PESCA's Fisheries Advisor Program through which Lake Chapala unions and cooperatives could obtain assistance from university students. However, the program reinforced the government's paternalism toward fishers. Cooperative members looked to their educated, government sponsored advisor as a problem-solver, rather than as a catalyst for developing organizational capacity.

In addition, several individuals failed to fulfill their obligations to the group (e.g., contribute to maintenance of cooperative property, participate in decision-making, abide by agreements, fulfill chosen and assigned responsibilities). Others acted opportunistically, stealing or appropriating Cooperative assets for personal benefit. Not only did they drain the group of financial resources, but also of social capital by creating conflict, destroying trust, and creating negative expectations of the group's potential to help individuals achieve their desired ends.²⁴ The resulting conflict added to the group's instability and inhibited the mobilization of (and likely destroyed) social capital among members.

Disagreements about how resources were to be managed split the group into two distinct factions. By 1990, members of one subgroup and several individuals from the other stopped attending meetings and paying their dues. While these actions were sufficient cause for being fined or dropped from the group, action could only be taken by a two-thirds majority of members, and then only with approval of the Federation of Cooperatives and the Labor Secretariat. The quorum rule notwithstanding, the president, treasurer, and the few members who attended meetings drafted a revised membership list, which included themselves and others who they considered to be "on their side," and sent it to the Federation for approval, along with a request for assistance with reorganization. Despite a trip by the president and the treasurer to Federation headquarters to pursue the matter, it was unresolved by the end of the study.

²⁴ For example, the treasurer's and his family had lived as squatters at the Cooperative's headquarters since he joined the group in 1985, and were responsible for most if not all of the water use, ran their own vending business from the headquarters, and refused to buy some members' fish. His blatant free riding and related behavior were a source of resentment among members.

The most challenging problem calling for the use of social capital among San Pedro fishers resulted from technological externalities and assignment problems created by "outside" fishers. Fishers from Petatán, Michoacán caused assignment problems at San Pedro by occupying fishing space valued by local fishers, and created technological externalities by crossing and crowding gear, and running over it when they motored through the area.²⁵

San Pedro fishers had developed a strong belief that the area adjacent to their community was their "zone." They felt they had first (if not exclusive) rights to set their gear and responsibility for monitoring resource use in that area. This idea of traditional use rights likely emerged in part from long years of community isolation and limited fisher mobility in some areas.²⁶

According to San Pedro union members, they first tried unilaterally to resolve the problem of unpermitted and non-resident fishers working in their zone. When they asked Petatán fishers to "respect their zone," they responded, "the lake is free." When subsequent efforts failed to resolve the intergroup problem directly, San Pedro fishers sought help from the Chapala PESCA office. After much delay, the PESCA chief made two inspections at San Pedro, but did not acknowledge or enforce San Pedro fishers' claim.²⁷

The San Pedro Union was destabilized by this problem. The group's failure to take more direct corrective action (i.e., through threat of sanction) was directly linked to authorities' paternalism toward the group and restrictions on its autonomy. Among San Pedro union records was a letter (dated July 13, 1987) from the PESCA chief encouraging local fishers to help monitor resource use and to report non-conformities to authorities so they could take enforcement action: "As a very special recommendation, whatever type of conflict or confrontation that might result from these actions should be avoided, their resolution better left in the hands of authorities." Without

²⁵ These and other "outside fishers" created further externalities when they polluted nearshore waters with motor oil and discarded fish skeletons.

²⁶ The idea of community fishing territories at the lake was considered by PESCA in 1986 (e.g., Sandoval Lara 1986). Paré (1989, pp. 113-14) cites this idea as one of a set of management recommendations organized fishers made to authorities in 1985. No formal recognition of such rights has occurred, although the idea has been reinforced by the fisheries officer's suggestion to groups involved in territorial disputes that visitors ask resident fishers for permission to fish within 500 meters of their shore.

²⁷ Because the outside fishers were from another jurisdiction, local PESCA officers had limited enforcement authority.

recognition of their zone, enforcement and sanctioning, fishers' efforts to monitor were useless. By the end of the study, members were considering disbanding the group and joining the EDOC-sponsored coalition.

Conclusions

Organizations created for one purpose can be used for other purposes. CPR user group organizations created or promoted as administrative expedients for authorities or to bolster an individuals' power over others can nonetheless be used by members themselves to foster institutional development. Such organizations lend stability to social and economic relations among resource users by defining roles and obligations. Through regular meetings and other mechanisms, organizations facilitate interaction among members and exchange of information, which can help generate trust and shared expectations of other members and the organization. Membership based on CPR use can increase the salience of members' shared social identity as CPR users. In short, organizations promote social relations and their use for collective purposes among resource users.

Yet the success of such a user group organization hinges on several factors. Members must be willing and able to direct their attention to the development of social relations within the organizational structure. They must coordinate their individual and collective resources and direct them toward endogenous institutional development. Organizational performance depends also on authorities' recognition of an organization's efforts to develop its resources and coordinate CPR use. Constraints on organizational autonomy and lack of recognition of those efforts can be destructive to the organization and its social capital.

The extent of recognition and autonomy, as demonstrated by authorities and perceived by resource users reflects their ideologies, which in turn influence the creation, maintenance and use of social capital within the organization. Incomplete recognition of local institutional development often is accompanied by constraints on autonomy, which together constitute paternalism. As Esman and Uphoff (1984) note, paternalism breeds dependency, including expectations of government financial and administrative support.

Because user group organizations afford administrative expediency for authorities, they may be appropriated for the collection of information and the distribution of support. When this occurs, individuals' attention is directed through the organization to the source of support. The organization becomes a device for obtaining individual support, rather than a locus of its development and use. Individuals rely less on the organization, and thus contribute less to its maintenance and

development, allowing the organization and its inherent social capital to degenerate. As interest in and expectations of the organization as a locus of collective action and a resource deteriorates, resource users fall back on more proximal social networks such as kin, neighbors, and perhaps fellow fishers who share a launch site or fishing area, or supply the same buyer.

References

- Berkes, Fikret and David Feeny. 1989. "Paradigms Lost: Changing Views on the Use of Common Property Resources." *Alternatives* 17:48-55.
- Berkes, Fikret and Akyut Kence. 1987. "Fishermen and the Prisoner's Dilemma Game: Conditions for the Evolution of Cooperation Among Users of Common Property Resources." *METU Journal of Pure and Applied Sciences* 20:209-27.
- Coleman, James S. 1990. "Social Capital" in *Foundations of Social Theory*. Cambridge: Belknap Press.
- Esman, Milton J. and Norman Uphoff. 1984. *Local Organizations: Intermediaries in Rural Development*. Ithaca: Cornell University Press.
- Gow, David D. et al. 1979. *Local Organizations and Rural Development: A Comparative Reappraisal* (2 volumes). Washington, DC: Development Alternatives, Inc.
- Hardin, Garrett. 1968. "The Tragedy of the Commons." *Science* 162:1243-1248.
- Lachmann, Ludwig M. 1978. *Capital and Its Structure*. Kansas City, MO: Sheed Andrews and McMeel, Inc.
- Loury, G. 1977. "A Dynamic Theory of Racial Income Differences." in *Women, Minorities, and Employment Discrimination*, Wallace, P.A. and A. LeMund, eds. Lexington, MA: Lexington Books.
- Limón, J. Gualberto, Sec. Elej. del Consejo Estatal del Acuerdo de Chapala, Gobierno de Jalisco, unpublished.
"Administración de la Cantidad y Calidad del Lago De Chapala."
- McGoodwin, James R. 1990. *Crisis in the World's Fisheries: People, Problems, and Policies*. Stanford: Stanford University Press.
- National Research Council. 1986. *Proceedings of the Conference on Common Property Resource Management*. National Research Council. Washington, DC: National Academy Press.
- Olson, Mancur. 1965. *The Logic of Collective Action. Public Goods and the Theory of Groups*. Cambridge: Cambridge University Press.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: CambridgeDirbmaCX667:

- University Press.
- Paré, Luisa. 1989. *Los Pescadores de Chapala y la Defensa de Su Lago*. Guadalajara, Jalisco, México: ITESO.
- PESCA. 1990. *Determinación del Potencial Acuicola de los Embalses Epicontinentales Mayores de 10,000 Hectareas y Nivel de Aprovechamiento: Lago de Chapala*. Informe Final. Guadalajara, Jalisco, México: Bioteccs, S. XX, S.A. de C.V.
- Pomeroy, Caroline. 1993. *Organized Fishers' Responses to Social Dilemmas of Common Pool Resource Use*. Ph.D. dissertation. Texas A&M University, College Station, TX.
- Sandoval Lara, Z. 1986. "[untitled]." *El Occidental* (6 agosto):1.
- SARH, 1938a. "Ley General de Sociedades Cooperativas." In *Diario Oficial*. 15 febrero.
- _____. 1938b. "Reglamento de la Ley General De Sociedades Cooperativas." In *Diario Oficial*. 1 julio.
- Taylor, Michael. 1987. *The Possibility of Cooperation*. Cambridge: Cambridge University Press.