

Outputs Appendix 5

**GCFI Conference Paper:  
Size Matters: Fisheries  
Management and Social Capital on  
the Turks and Caicos islands**

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## ABSTRACT

Recent research on the management of conflict in tropical fisheries indicates that flexible local institutions supported and recognised by government form an integral part of fisheries management and are crucial to the successful management and resolution of conflicts. But what happens when such institutions do not exist or are not fully matured? Evidence from the Turks and Caicos Islands shows that in some circumstances factors other than institutional formation are equally important.

Based on data collected in the Turks and Caicos Islands between 1999-2000, this paper describes the constraints to fisheries management on small islands and then analyses how conflicts are managed and resolved. The paper finds that, although a number of institutional structures are found on the islands, social capital is also a very important component in the process of conflict management. The analysis of social capital is now popular in the social sciences, but has rarely been applied to fisheries management issues.

**KEYWORDS:** conflict; fisheries; social capital

## INTRODUCTION

Although there are a number of exceptions, it is arguable that fisheries need management so that they can provide a continuous stream of nutritional and income benefits to fishing communities over time. Without management the 'tragedy of the commons' often results (Hardin, 1968): economic rent is reduced, stocks may be overfished and all meaningful control of the benefit stream from the resource is lost (Cunningham et al, 1985). Management is thus needed to protect the biological health of the stock and concomitantly the well-being of the community dependent upon fishing. Recent research (Hatcher et al, 2000) has shown that co-operation and compliance between stakeholders is key to successful fisheries management. Management, however, inevitably results in trade-offs between the multiple stakeholder groups involved: fishermen, processors, conservationists, tourists and so on; and the three paradigms that shape management systems: conservation, rationalisation and social/community (Charles, 1992). Without careful management of such trade-offs, conflicts often emerge as each group tries to consolidate its position and a middle ground between the needs of the community, the market and the fishery is reached. Fisheries worldwide are under pressure from increased competition and decreasing resources and, although violent conflict is rare, low-level chronic conflict is an ever-present feature of many fisheries. Tropical fisheries, particularly those in countries where there is a heavy economic reliance on fishing, are all too aware of the potential for increased conflicts over the allocation and usage of natural resources. In spite of the rise in the overall level of conflict in fisheries, specific institutions for managing conflicts are rare and, in developing countries in particular, methods for managing conflict are only just beginning to gain credence at the policy level.

There are, generally, two channels for managing or resolving conflicts: at the formal level, Fisheries Departments and Fishermen's organisations can mediate between conflicting stakeholder groups, providing a platform for concerns and a means of communicating government policy to user groups. At the informal level, the traditional structure of fishing communities can help alleviate conflicts through long-established dialogue processes and recognised methods of resolving conflicts. But what happens when such institutions do not exist or are not mature enough to tackle conflicts? In some cases, conflict management and resolution is non-existent because economic or political problems have led to institutional failure and the usual channels of mediation and consensus have been eroded (see Bennett et al, 2001 for example). In other cases, institutions have failed to emerge altogether due to insufficient state support or, particularly in the case of small-islands, due to size and context constraints. In these cases there is clearly some other mechanism that is being used to manage and mediate in conflicts because evidence of violent, uncontrollable conflict is rare.

Research on the Turks and Caicos Islands has demonstrated that social capital has a very important role to play in how fisheries are managed and, importantly, how conflicts are dealt with. The following paper examines the nature of social capital and its role in the management of fisheries conflicts and asks whether the development and recognition of social capital at the policy planning stage might be a viable way forward for other small island fisheries in the region. This paper is organised as follows. First we explore the literature on institutions and social capital. Then we outline the management and administration of the conch and lobster fisheries on the islands and then go on to describe the conflicts reported in the Turks and Caicos coastal zone. Based on this information we offer an analysis of how social capital aids conflict management in the islands and what the policy implications might be for other small islands in the region.

## SOCIAL CAPITAL

Although it is not possible to date the first use of the term 'social capital', it has rapidly gained in currency in the last 20 years or so. In broad terms, social capital is the glue that holds society together. From the perspective of the individual it is a product of social relationships that individuals can use to increase their well-being (Rudd, 2001: 132); the extent and nature of those relationships is a function of the individuals location in the social structure (Adler and Kwon, 2000: 3). From the perspective of society, social capital "encompass[es] the norms and networks facilitating collective action for mutual benefit' (Woolcock 1998).

Social capital is a public good that only exists when it is shared, it is not held by an individual, but by others that the individual relates to (Dhesai, 2000:201; Narayan, 1999:6). Some argue that social capital can be constructed through local interactions (Falk and Kilpatrick, 2000:103); others maintain, however, that it cannot be 'created' but is the by-product of other social activities (Molinas, 2000: 416) whilst others suggest that creation of social capital at the local level is possible but requires state support. (Pretty and Ward, 2001: 209). The amount of social capital that society can make use of is a function of the amount of social capital each individual has acquired: societies with good and extensive links between individuals are more cohesive than those societies where only a minority can access social capital.

Social capital is often referred to as beneficial to society, but this is not necessarily the case. Social capital can build barriers as dense networks create definitions between those in the network and those outside (the caste system for example), these dense networks can also negative externalities because they can lead to and support cronyism, nepotism and corruption (Narayan, 1999:8).

A useful model for studying social capital is put forward by Pretty and Ward (2001:211). They examine in turn the four elements crucial to social capital: trust; reciprocity; common rules and networks. Trust is an essential ingredient in social capital because it enables community members to 'predict' each other's future moves, thus reducing information costs. The ability to trust the behaviour of others also helps reduce deviant behaviour. For this reason, trust is a key to compliance with, and the monitoring and enforcement of, regulations. Trust is a fundamental building block of reciprocity. The informal exchange of favours only works where trust has been built and reciprocity in turn helps generate and foster trust and strengthen networks. They identify norms as the 'mutually agreed or handed-down [modes] of behaviour that place group interests above those of individuals'. These norms have in turn been established as a result of repeat actions which, as explained earlier, rely upon trust and help facilitate collective action. Networks are crucial to society and rarely exist in isolation. Multiple distinct networks are often linked, thus broadening the base upon which relationships are formed and mediated. Networks rely upon trust – that which exists between people who know each other, but also between people associated with a known network such as a church, political party or sports club. Despite the obvious role of social capital in the successful management of natural resources, this is still a relatively new field of study.

Social capital has been shown to have a positive effect on the sustainable use of the environment. It arises from shared relationships (collective action) which leads to increased economic efficiency at the community level and is able to internalise economic externalities such as erosion (Swinton, 2000: 5). Social capital also has an important role to play in fisheries management because it can have positive effects on co-operation and compliance. Molinas (2000:414) argues that co-operation is more likely to result if there is a high probability that interactions will be repeated; in other words, repetition occurs when levels of trust are sufficiently high to ensure that the cost of gaining information on future moves is low. Co-operation between individuals and groups is also more likely to happen when the gains from such actions are high and defectors can be identified and punished and the costs and ability to monitor behaviour are lower. This is a characteristic of small islands where there is higher visibility, more 'gossip' and less chance of what Molinas refers to as 'errors in interpretation' in behaviour. Cooperation is also boosted by shared beliefs that engender trust and bind groups together. The smaller the population, the more discussions can take place on important issues and the higher the degree of mutual dependencies (reciprocities) between members.

The role of social capital in facilitating the management of a resource, and in particular managing conflicts over that resource comes to the fore when there are few other institutions to fulfil such a role. Large-scale fisheries often benefit from extensive formal and informal institutional frameworks. Large state institutions can provide finance and support for a wide-range of initiatives such as Fishermen's Union and Co-operatives to improve fisheries management, policy implementation and

conflict management. Informal institutions such as the traditional chief structure found in many West African states also help to focus fisheries management initiatives and to act as a mediator in conflicts and disputes. Such institutional arrangements, however, often rely upon large populations and ‘mature’ institutional frameworks, a factor often missing on small islands that may have neither the financial capacity, skills-base nor historical background to develop such frameworks.

Although from a Caribbean perspective, the Turks and Caicos Islands are comparatively well developed and not suffering from many of the economic and political problems witnessed by other small islands in the region, they do provide an excellent case study on the role of social capital in managing fisheries conflicts.

## MANAGEMENT OF THE TURKS AND CAICOS ISLANDS FISHERY

The Turks and Caicos islands lie in the Western Atlantic. They are approximately 145 km north of the island of Hispaniola and lie at the southern end of the Bahamas archipelago. They consist of eight main islands of which 6 are inhabited. Although fish has been an important source of protein to the islands since pre-Columbian times, formal evidence of commercial fishing dates from 1887 (Sadler, 1997; Béné and Tewfik, 2001), but increased significantly in the early 1950s with the introduction of freezing technology (Brownell and Stevely, 1981). Fishing on the islands relies on 3 principle commercial stocks: queen conch (*Strombus Gigas*), spiny lobster (*Panulirus Argus*) and finfish (mainly grouper and snapper). Of these, the conch and lobster fishery is the most important socially and economically and are the principal stocks exported. Although all inhabited islands are engaged in fishing these species, only South Caicos and Providenciales have processing plants licensed to export product.

### *Stock And Effort Management*

The Turks and Caicos Island fishery is open access and held as state property. The number of entrants to the fishery is currently not limited (except by nationality, see below) but all fishermen require a licence. Both major export stocks are managed. Queen conch (*strombus gigas*) is protected under CITES<sup>1</sup>, and as such is managed by quota, minimum size restrictions, a closed season (July 15<sup>th</sup>-October 15<sup>th</sup>) and a Closed area (East Harbour Conch and Lobster Reserve). The quota is set at 1.6 million lbs per year (this amounts to approximately 600,000lbs of processed conch meat) and is set by the Quota Management Committee which allocates it on a quarterly basis. At the time of the study the quota was split 50:50 between South Caicos and Providenciales with the plants on each island then competing for the quota. During the last season, each plant has been given its’ individual share of the quota, (over 100,000 lbs). Conch is caught exclusively by free-diving (breathing apparatus is illegal). Lobster (*Panulirus Argus*) is managed by a combination of closed season (which runs from April through August), and minimum landing size. The lobster fishery opens in August with what is known as the ‘Big Grab’: a 1 or 2 week period when about 30% of the annual catch is taken. The lobster fishery is mainly a dive-based fishery, although there are 3 boats on South Caicos using traps (pots).

<sup>1</sup> As a result of the low level of stocks in Florida, Queen Conch entered Appendix 2 of CITES at the 11<sup>th</sup> hour during a meeting in 1995, although there was no suggestion that stocks were threatened in other places in the Caribbean (DECR, pers.comm 2000)

### ***Processing-Sector Management***

As the only legal means of exporting product, the processing plants have an important role to play in the fishery. The plants are largely price-takers (from the market in the USA) although each year there are reported to be meetings and petitions initiated by the fishermen to persuade the plant operators to increase the price paid for product. By and large, processors are free to use the quota and manipulate prices as they see fit (although recent government moves now apportion the conch quota across quarters) which in some cases can lead to the hoarding of frozen product until the next season or the refusal to buy product until the price in Miami has improved.

### **CONFLICTS REPORTED ON THE ISLANDS**

As part of a three-country study into the management of conflict in tropical fisheries, field interviews on the islands were conducted in 1999 and 2000 with a wide range of stakeholders. The aim of the study was to ascertain what conflicts were actually present in the fishery, why those conflicts had arisen and how they were managed. In total 19 respondents from South Caicos, 13 from Grand Turk and 20 from Provo were interviewed, distributed as shown in table 1.

### **Method And Results**

A semi-structured questionnaire was used for each of the principal stakeholder groups in the fishery: fishermen, processors and the conservation/tourist sector. The questionnaire consisted of two sections. First a contextual and situational section, which asked questions on access rights, fishing patterns, the nature of the business (for non-fishing respondents) and who the principle decision makers are in that sector. This was then followed by a second section specifically on conflict management which was designed to elicit information on the principle conflicts, probable causes, how such conflicts were resolved, and which were the hardest to resolve and why.

### **Conflicts Reported**

Illegal fishing in various forms was reported by both fishermen and fisheries officers. Discussions on illegal fishing covered the use of bleach to catch lobster and 'illegal' entrants to the fishery. Bleaching, most common to South Caicos is used to extract lobster from their burrows. It is highly destructive to the reef and only used by a small percentage of fishermen. Detection is difficult despite widespread knowledge in the community about who is using bleach. Illegal entrants to the fishery include poaching by Dominican Republic vessels but the most frequently mentioned problem was that of 'non-belongers' in the fishery. According to the Fisheries Protection Ordinance (Chapter 104, para 6 (g) (a) and i), neither a commercial fishing licence nor a commercial fishing vessel licence "may be issued to persons other than Belongers". Although the scale of the problem is not entirely clear, there are reported to be a considerable number of non-Belongers (almost exclusively Haitians and Dominicans) working in the commercial fishery. The law also states that 'the holder of a Commercial Fishing Vessel Licence [...] shall not [...] allow the particular vessel to be used for commercial fishing [...] unless there is a Belonger aboard the vessel at all times. Both fishermen and fisheries officers confirmed, however, that many vessels went to sea without the required Belonger on board. Belonger fishermen can apply to

have assistance on the boat, and given the arduous nature of free-diving, it is not uncommon for relatively young belonger fishermen to find that they are physically no longer able to dive and being able to hire in other labour is therefore useful. But, fishermen and Fisheries Officers report that this situation is widely abused with belonger fishermen staying at home or working on-shore whilst non-belongers work the boat.

Lobster-pot removal or theft was the most reported conflict between the fishing and tourist industries. Few fishermen use lobster pots yet fishermen mentioned this issue on Grand Turk and fisheries officers on Providenciales. The root of this conflict is competition for space within the marine environment, which is leading recreational divers to leave the Marine Parks and search for new dive sites elsewhere – often close to grounds traditionally used by fishermen. This has led to confrontations between fishermen and divers, each cutting or damaging the others' equipment.

All stakeholder groups also frequently reported lack of enforcement as a conflict. Firstly, there is a perceived lack of enforcement of foreign poaching vessels that fish illegally in Turks and Caicos waters and also within the Marine Park boundaries. Occasionally they are caught, the vessel impounded and the crew arrested. The DECR, however, admit that there are probably a number of vessels that escape detection due to the lack of capacity for effective enforcement. Secondly, the lack of enforcement on illegal fishing activity such as bleaching and the use of non-belongers was mentioned.

The size and distribution of the conch quota was cited as a conflict on both South Caicos and Providenciales. Conch is managed by quota allocated to the processing plants, not the fishermen. Fishermen on South Caicos (where 95% of the population is dependent upon fishing) expressed an interest in quota being assigned according to number of fishermen and need – the result being that South Caicos would receive more quota as it has more fishermen and a less diversified economy than Providenciales. Not surprisingly, the fishermen all state that the quota should be larger – or abolished altogether. The processors too would like more quota (whether this means more quota from other plants or an overall increase was not clear).

The presence of part-time fishermen in the fishery was a conflict raised by Fisheries Officers and, to a lesser extent, some full-time fishermen. There are currently no restrictions on who can apply and be issued with a commercial fishing licence (except nationality, as mentioned above). As a result, it is estimated that up to 60% of the 160 licences issued on Providenciales by late 2000 were to part-time fishermen. The large number of part-time fishermen in the fishery results in increased effort particularly during the opening of the lobster season (with the added consequence of lower earnings for full-time fishermen). Full-time fishermen also reported that part-time fishermen are generally less-skilled and thus may be causing more damage to the reefs.

Overall, conflict was not seen as a significant or insurmountable problem on the islands and conflicts reported were almost exclusively confined to the different stakeholder groups – there were few inter-sectoral conflicts (between the large fishing and tourism sectors for example).

## CONFLICT MANAGEMENT ON THE ISLANDS AND BEYOND: THE ROLE OF SOCIAL CAPITAL

The failure of formal and informal institutions is often the cause of inadequate or non-existent conflict management in a fishery (Bennett et al, 2001). However, this was found not to be the case in TCI. Here, the formal institutions such as the Ministry of Natural Resources, the Department for Environmental and Coastal Resources (DECR) and the Fisheries Advisory Committee (FAC) all function within a democratic, open and stable situation. Whilst no formal platform for conflict management exists, they each have a role to play in mediating between conflicting stakeholders and intervening in day to day problems. However, it was also clear from the data collected that there were informal institutions on the islands that played a very significant role in managing and resolving conflicts. These institutions can be explained by the theory of Social Capital. Using the framework set out by Pretty and Ward (2001), the following examines how trust, reciprocity, norms and networks act as a conflict management mechanism on the islands.

### *The Role of Trust, Reciprocity, Norms and Networks in conflict management on TCI*

Trust is the fundamental building block of social capital is the key element that helps reduce transaction costs between community members. Building trust amongst a community is, it could be argued, easier the smaller the population – and this is certainly the case on TCI. The ability of the community to know the behaviour of all other members and the high visibility of broken trust helps ensure that the level of illegal fishing methods (predominantly bleaching of lobsters) is contained, even if it is not prevented. Because the long-term consequences of bleaching are well known, damaged social standing within the community (which is based on the amount of trust an individual can generate) plays a large part in managing this conflict largely because it is cheaper in the long run to comply than risk losing the trust of the community. (See Hatcher et al, (2000) for an econometric analysis of compliance and trust in fishing communities).

Conversely, the level of mis-trust between the belonger and non-belonger community is a major impediment to managing conflicts related to poaching by foreigners and the use of non-belongers on fishing vessels. The complicit behaviour of the belongers who hire the non-belongers, and the law which (albeit unwittingly) allows it to happen also contribute to eroded trust in this area. By establishing clear and enforced guidelines on this issue, all fishermen would be able to predict the moves of others and the level of trust would increase.

Reciprocity is an important feature of islands with small populations where, once again, the ability to trust other community members is crucial to survival and broken trust is very visible. On TCI there is a strong reciprocal relationship between the plant-owners and the fishermen who operate in a highly symbiotic relationship. The plant owners rely on the fishermen for product; almost all the fishermen need the plants to buy their catch and occasionally rely upon the plant owners to loan them money for news boats and engines. The inter-dependence that has arisen on a commercial basis is reinforced by that which has been created due to familial and island links between plant owners and fishermen.



The acceptance or rejection of norms (accepted modes of behaviour) are able to manage conflicts within small fishing communities. In much the same way that trust and social standing can enforce certain behaviours, the establishment of certain norms that uphold the wishes of the majority can also establish 'right' and 'wrong' which ultimately help mediate in conflicts. The environmental consequences of bleaching are understood and there is strong community pressure to enforce the law. The norms of fishing behaviour that dictate that bleaching is 'bad' help mediate in the conflict (by taking legitimacy out of the hands of those that use bleach). Whether community interests are able to finally eradicate bleaching, though, remains to be seen. Although hooking is less environmentally destructive than bleaching, it too caused conflicts between those that abided by the law and those that didn't. By the time this study was conducted the practice of hooking lobster had been 'legitimised' if not formally legalised. So widespread had been the use of the hook that the level of acceptance of its use grew until community interest was able to over-ride individual interests.

The most contentious conflict within the fishing community relates to the use of non-belongers on boats. Those that (illegally) use non-belongers defend their actions sometimes on the basis that this is the only way for them to make a living, sometimes on the basis that 'everyone else is doing it'. It is difficult to ascertain how widespread this practice is but there is also significant lobby that disagrees strongly with this law being broken. While commonly held norms (that the law should be respected) can and do hold society together, the case of non-belongers on fishing boats demonstrates how such norms are subject to considerable pressures (economic and financial in this case) and are constantly changing to reflect group interests (societies view of the practice). Whether community interest (that fishing is reserved for belongers) is able to over-ride individual interest (that fishing needs non-belonger labour) in this case remains to be seen.

Finally, networks which define different groups within society have an important function to play in conflict management because they provide the routes of communication and dialogue needed to resolve issues. Networks on the islands are, *inter alia*, based around churches, political allegiance, language groups, island of birth, sports teams and familial connections. Due to the small population there are highly complex links between networks and many points of overlap. With many islanders able to identify with a wide range of networks, problems, concerns and the early seeds of conflict can be discussed with a wide variety of actors in the hope of finding mediation and solutions. The networks which define islanders' identity also help foster support for conservation measures such as the existence of the Marine Parks. Networks, however, can have negative impacts. As noted earlier, Fisheries Officers reported that enforcement is made much harder when the offender is a member of the extended family or engaged in the same networks as the officer (a common occurrence). The powerful identification with networks also means that there are clear lines drawn between different communities or groups (belonger/non-belonger for example) which can foster mistrust which in turn hampers efforts at encouraging dialogue to resolve conflicts.

## CONCLUSIONS

Institutions are important to the management of fisheries, and, to the management of conflict in those fisheries. Some fisheries do, however, succeed in managing conflicts

without the benefit of extensive institutional structures – either because such structures have never emerged, or have failed. In these cases there are clearly other factors that enable conflicts to be contained and resolved and social capital is an important element to understanding why this happens. Whilst the proximity of family members and loyalty to particular islands can cause difficulty in both the formulation of policy, the enactment of management plans and enforcement of legislation on small islands, size can also be a positive factor in preventing conflict escalating out of control. Where establishing specific conflict management institutions is not feasible due to economic or political constraints, or where the size of the population makes such an exercise extremely difficult, the development and enhancement of social capital may be the answer. Capacity building of local (informal) institutions that enforce norms that benefit the community would be a low-cost means improving natural resource management. Social capital, as a mechanism for regulating communities and resolving conflicts has always existed, but it is only now that its real significance is being recognised. Fisheries on the Turks and Caicos amply demonstrate that intra-familiar and island networks are important factors in the enforcement of fisheries regulations and in maintaining the peace. Further research needs to be conducted on how networks are organised on the islands and how policy makers might harness them. Understanding how communities co-operate and what types of social capital mediate their behaviour may provide invaluable tools in improving fisheries policy and avoiding conflicts in the future.

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Table 1: distribution of respondents by island and stakeholder group

ISLAND	STAKEHOLDER
South	Fishermen (13)
Caicos	Processors (1)
	Sport Fishermen (2)
	School for Field Studies (2)
	Government officials (1)
Grand Turk	Fishermen (6)
	Fisheries Advisory Committee (1)
	Diving Operations (1)
	Tourism (1)
	Government (4)
Provo	Fishermen (12)
	Processors (1)
	Fisheries Advisory Committee (1)
	Sport Fishermen (2)
	Conservation bodies (1)
	Government (2)
	Conch farm (1)