Results Appendix 3

Field Work Report (Turks and Caicos Islands)

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EXECUTIVE SUMMARY

1. Field work was conducted between 6 - 23 November 2000. The Turks and Caicos Islands represent 'small-island fisheries' in the Conflict project.

2. The Islands are heavily dependent upon Off-Shore Finance, Tourism and Fishing although the degree of dependency varies across the islands.

3. The main stocks fished are Queen Conch (protected under Appendix 2 of CITES and managed by quota) and Spiny Lobster (managed by closed season).

4. Of the 6 inhabited islands, 3 were chosen for the study: Providenciales which is the largest and most developed and is also the centre of the Off-Shore Finance and tourism industries; Grand Turk which is the nation's capital where government employment is important, tourism and fishing taking lesser roles and South Caicos which is comparatively underdeveloped, has a small tourist sector but is largely dependent upon fishing.

5. Stakeholders were identified following the pilot study in October 1999. These were fishermen, processors, dive operators, tourism professionals and those working in the conservation sector.

6. A semi-structured questionnaire was used with all groups. Interviews with fishermen were conducted on an ad hoc basis and generally in Focus Discussion Groups. Interviews with other professionals were usually pre-arranged and conducted on a one-to-one basis.

7. There are 33 National Parks on the islands (marine parks, land parks, nature reserves, historical sites and sanctuaries). The presence and management of the marine parks had been highlighted as a particular issue during the pilot study, so the field work was conducted within the context of multiple and possibly contradictory marine zone users.

8. The main conflicts identified by respondents were: spatial conflicts around Providenciales; economic and political conflicts between the fishermen and the Fisheries Department and the Processors; ideological conflicts between all the marine zone users (with the possible exception of the fishermen) and Legal and Administrative conflicts concerning the management of the fishery, the management of the marine parks and regulation enforcement in both of these.

9. The conflicts identified by the fishermen concerned the size and distribution of the conch quota (which is allocated to the plants and not the fishermen); the rising number of non-belonger (mostly Haitian) fishermen on the grounds; the use of illegal fishing methods and the large number of part-time fishermen with permits.

10. The conflicts identified by the diving operators related mostly to fishing behaviour – the prevailing view that fishermen were overfishing the waters and destroying the marine environment.

11. Sportsfishermen didn't appear to have any conflicts with anyone (although the diving fraternity had problems with the concept of sportsfishing). A number of the sportsfishermen interviewed were ex-fishermen and so had a healthy respect for the commercial fishing industry.

12. The processors identified a number of conflicts with the Government – mostly related to the distribution of the Conch quota (South Caicos feels it should have proportionally more than Providenciales) and the closed season for Lobster (which creates peaks and troughs of activity in the plants).

13. Marine Parks do not, on the whole, create conflicts: the fishermen and the sportsfishermen recognised the value of the parks as breeding grounds for fish and marine product. Conflicts within the Marine Parks tend to be confined to the rapidly expanding tourism sector which is beginning to experience spatial and zoning problems within the parks.

14. There are no specific conflict management institutions, rather the Fisheries Officers and the Fisheries Advisory Committee act as a conduit for problems and grievances from the fishermen.

15. On an informal level, the smallness of the population helps 'social capital' to diffuse conflicts before they escalate.

16. As the number of users of the marine environment rises (as it is expected to do during this peak season with an increasing number of flight arrivals) it can be expected that conflicts within the park boundaries will rise. This is unlikely to impact upon the commercial fishing community who use different grounds. However, if diving operators (for example) start to migrate outside the parks in search of uncrowded reefs for tourist, so interactions with fishermen are likely to increase.

17. There is a clear need to address the issue of non-belongers and part-timers in the commercial fishing industry before the situation escalates. Clear legislation and enforcement are likely to be the simple answer to this situation.

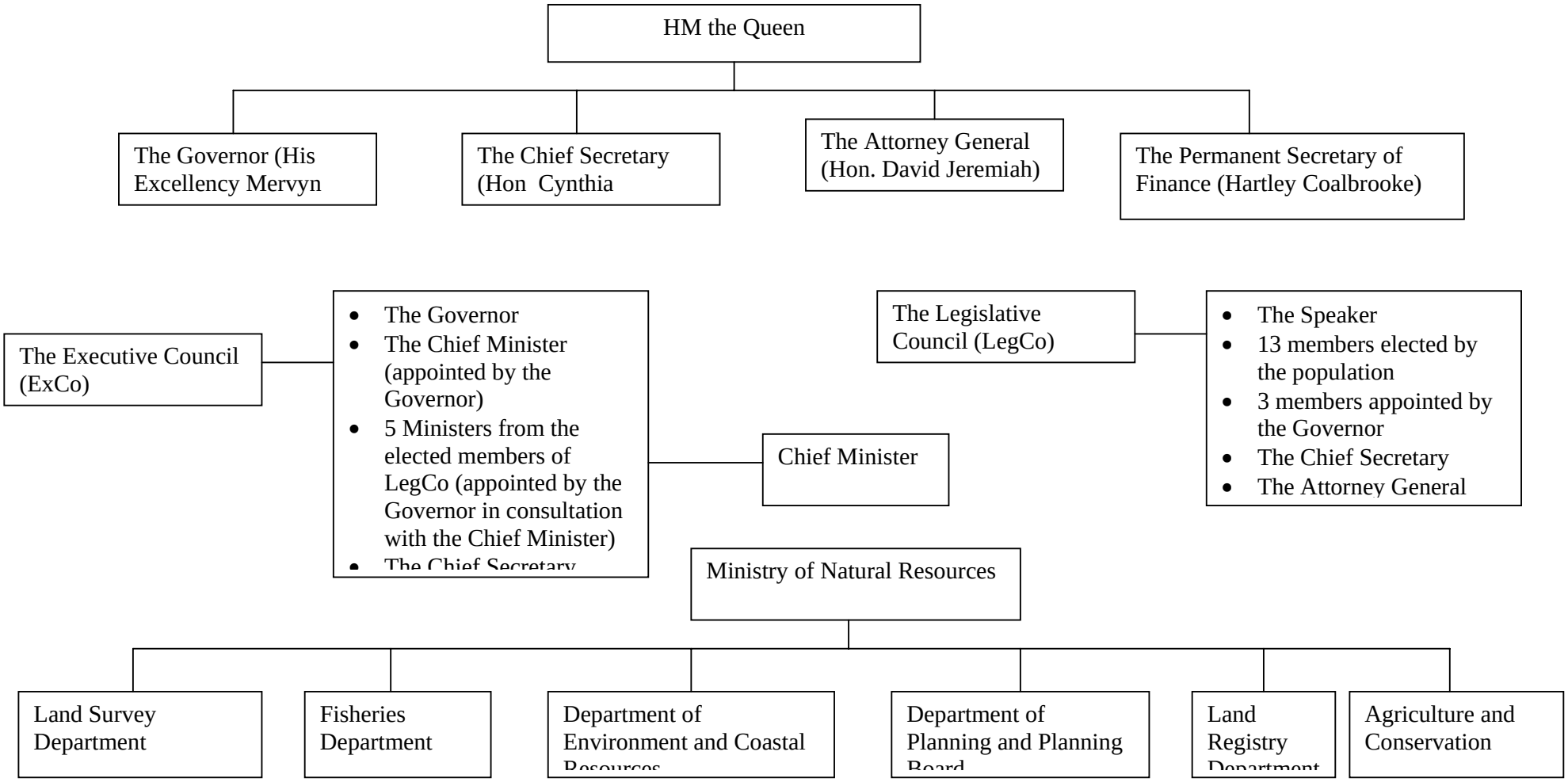
1 The Islands

The Turks and Caicos islands lie in the Western Atlantic. They are approximately 145 km north of the island of Hispaniola (comprising Haiti and the Dominican Republic) and lie at the southern end of the Bahamas archipelago. The Turks and Caicos Islands consist of eight islands (West, South, East, North and Middle Caicos, Providenciales, Grand Turk, Salt Cay) of which just 6 are inhabited (Providenciales, North, Middle and South Caicos, Grand Turk and Salt Cay). There are also a number of small cays and rocky islands. The islands can be divided between the Turks group and the Caicos group. The Turks group comprise Grand Turk (the Nation's capital), and Salt Cay plus a number of uninhabited islets. The Turks Island Passage, 22 miles wide and 7,000 feet deep separates this group from the much larger Caicos group which lies around the perimeter of the Caicos Bank.

Current estimates of the islands' population stands at somewhere between 17,194 (SLC 1999 estimate) and 24,000 (IHSA 1998 estimate)[1]. Population is currently growing at 4.2% (1999) – this includes both births and in-migration.

The Turks and Caicos islands are a British Dependent Territory. As such, they have a Govenor (Mr Mervyn Jones) who acts as the Queen's appointed representative on the islands, plus a proto-democratic political system (see chart below).

[1] Turks and Caicos, Census of Population; Institution for Health Sector Development, Turks and Caicos Islands: Development of Health Sector Strategy, SLC, 1999.



Notes: The Chief Minister is the leader of that political party represented in the Legislative Council which commands the support of a majority of the elected members of the Council (Turks and Caicos Islands Constitution (1997), Part II, para 7(2))

1.1 Cultural and political history

Archeological evidence puts early occupation of the islands at about 700AD when the Taino lived there. By the time Columbus arrived in the late 15th Century, he encountered the Lucayan[2]. The arrival of the Spanish in the 15th century quickly destroyed the indigenous population through a combination of imported disease and slavery and by 1513 the Turks and Caicos Islands were uninhabited. Once the only source of wealth on the islands had disappeared, they remained deserted until 1678 when Bermudans of British descent began to occupy the Turks islands (Grand Turk, Salt Cay and then South Caicos) and started a salt industry. During the 1780s the Caicos Islands were settled by the British loyalists that fled North America during the war of independence. The Caicos islands were considered better for habitation than the Turks group, rainfall on the Caicos was higher and consequently there was more ground water reserves. The Caicos Islands settlers came with their slaves via Florida and southern British colonies to the Bahamas and from there migrated south to cultivate cotton and sugar on Providenciales, North and Middle Caicos. Soil degradation, insects and hurricanes resulted in the plantations being abandoned in 30 years or so and the slaves left on the islands led a subsistence existence. After the US war of independence the influence of the loyalists ceased and Caicos islands were forgotten, but the Bermudans continued to dominate in the Turks.

Contemporary non-belonger[3] arrivals on the islands include wealthy ex-pats from the United Kingdom and the United States who move to the islands to benefit from their tax-free status, and a large number of Haitians and citizens of the Dominican Republic who arrive both legally and illegally in search of work and an improved standard of living[4]. The presence of non-belongers (particularly the non-English speaking Haitians and Dominicans) on the islands is rapidly becoming a thorny issue for a number of reasons. Much of the menial labour is done by immigrants from Hispaniola (chamber maids, cooks, baggage hauliers in the airport and construction work) yet the increasing number of migrants is seen as threatening the fragile cultural make up of the islands and also as a source of increased crime. The presence of Haitians in particular is pertinent to the discussion of conflicts within the fishing sector as will be outlined below.

Administratively, the Turks and Caicos have had a chequered past. They fell under Bahamas administration until 1848 when a dispute over salt dues caused the islands to break away to become a dependency of Jamaica. When Jamaica gained independence in 1962 the islands returned to the authority of the governor of Bahamas until it too gained independence in 1973, at which point they became a dependent territory with internal self-administration.

[2] The Taino occupied TCI from around 700-900 AD, the Lucayan from 850-1500 AD. The Lucayan's are the historical descendents of the Taino.

[3] Belonger is a local term for a Turks and Caicos Islander – non-belonger refers to anyone else.

[4] In 1990, the latest year for which figures are available, Haitians made up 38% of the population of Providenciales and 21% of the resident population of the Turks and Caicos. Dominicans accounted for 4.7% of the population of Providenciales and 3% of the total resident population. The category of Others in the 1990 census accounted for 24% of the population of Providenciales and 19% of the total resident population. (1990 Census of TCI, Turks and Caicos Islands Government)

The 1976 constitution established the Executive and Legislative camera after the Westminster Model and was based on the 1974 recommendations put together by the Earl of Oxford and Asquith who had been appointed the Constitutional Commissioner the previous year. However, 9 months after he wrote his report, serious civil unrest broke out with the introduction of party politics and Black Radicalism to the islands. Led by J A G S McCartney, a small group of men, disgruntled with a declining economy and the rising number of expatriates, formed the People's Democratic Movement, whilst the business community set up the Progressive National Party to quickly counter this move. In 1976 the PDM won the elections and planned to negotiate independence if they won the elections again in 1980. However, McCartney died in a plane accident and without his leadership they lost the 1980 election to the PNP[5].

In 1985 Saunders (Chief Minister) and two other ministers were arrested in Miami on drugs charges and later that year violence flared up in Grand Turk as political tension mounted. In response a QC was sent from London to investigate and in June 1986 London imposed direct rule. The QC's report found widespread corruption and political patronage. The Public Works Department (PDW) was found to be rife with corruption - not least because it employed nearly half the islands' workforce. To an extent this corruption stemmed from the small population of the island were impartiality is hard to instill in the civil service due to familial links. Despite serving a number of years in prison, Norman Saunders returned to the islands, and was elected as one of the MPs for South Caicos in the 1990s.

1.2 The Environment

The Turks and Caicos are limestone islands. As a result, they have very little natural water reserves and, being dry-tropical in climate terms do not benefit from large amounts of rainfall. Both the Turks and Caicos group are surrounded by coral reefs, making them renown throughout the world as a prime wall-dive destination. As a consequence of this, the islands' natural and historical heritage is now protected by 33 parks, reserves, sanctuaries and historical sites. The effect that these parks and reserves has had upon the multiple users of the coastal zone is explored later in this report. Despite the presence of ordinance to protect the environment, the fragile eco-system of the islands and the marine environment is under threat from the impact of the tourist industry and its myriad spill-over effects. Ironically, the very act of expanding development on the islands raises the prospect of destroying the one thing tourists in particular come for: clean seas and healthy coral reefs. The impact of development in general, and tourism in particular is now causing concern to those in the conservation and environment sector. Informed sources in the environment sector report alga blooms caused by snorkelers on Smith's Reef (lying off the north shore of Providenciales) and reduced water quality on Providenciales and other islands. Land-based environmental resources are also under threat: a number of rare species indigenous to the islands are under threat from encroaching tourist development; what little ground water exists is contaminated and little thought appears to be given to the

[5] Thorndike, T. "When small is not beautiful: the case of the Turks and Caicos islands." *Corruption and Reform* 2(1987):259-265.

consequences of large-scale, unplanned development on islands that are ecologically very fragile. A number of organisations and programmes (apart from the DECR) are active in the environment sector: notably the National Trust and the Coastal Resources Management Programme (of which more below).

The close relationship between various economic activities on the islands in terms of the impacts they have on each other and the overlapping areas of priorities further complicates development on the islands. One of the biggest demands for water and sewerage comes from the tourism sector and one of the most important consequences of such demand is increased pollution of the coastal zone. Yet, the responsibility for each of these three major players (water, tourism and the coastal resources) lies within three different ministries. While this is not to suggest that there is little cooperation between the ministries, it does highlight how differing objectives for each sector may cause conflicts and hamper sustainable development.

Concomitant with the rise in tourism is the dramatic rise in population on the islands. As the following table demonstrates, the population resident on the islands has grown some 54.7% between 1980 and 1990. This alone is enough to put added pressure on scarce resources, without adding the additional burden of some 105,900 tourists in 1998 (the latest figure available)[6]. Tourist arrivals between 1993 and 1998 rose by 39,100 which represents a 58.5% increase in just 5 years (pers. comm Department of Statistics, Turks and Caicos Government).

Population in Census Years by Island

Island	1960	1970	1980	1990	IHSA 1998 est.	SLC 199 est.
Grand Turk	2180	2287	3098	3691	4,000	4198
Salt Cay	448	334	284	208	100	131
South Caicos	840	1018	1380	1198	1200	1115
Middle Caicos	532	362	396	272	200	408
North Caicos	1150	999	1278	1275	1500	1562
Providenciales	518	558	977	4821	17000	9780
Total	5668	5558	7413	11465	24000	17194

Source: Turks and Caicos, Census of Population; Institute for Heath Sector Development, Turks and Caicos Islands; Development of Health Sector Strategy, SLC, 1999

1.3 Economy

In 1999 tourism accounted for 30% of GDP, the construction industry and wholesale and retail trade account for 15% each and government services make up 10% of GDP. Fishing is not listed separately in official statistics, but is amalgamated under agriculture which accounts for 2.7% (this is almost certainly all made up of fishing). Interestingly enough, there are no available figures on the Financial and Business Services Sector (pers. comm, Department of Economics and Statistics, 2000).

In the absence of any industrial development, salt, plantations and fishing have provided the mainstay of the islands economic development since the 17th Century.

[6] For an economic analysis of the impact of tourism on the environment see Collins, A (1999) 'Tourism Development and Natural Capital' *Annals of Tourism Research*, vol 26:1, pp 98-109

The plantations disappeared not long after they began (as mentioned above), the salt industry, however, faired a little better. Solar salt production was carried out on many of the islands: South Caicos, Salt Cay and Grand Turk being the main centres. Salt was very important to the islands for many years, but in the end scales of production on the island meant it was unable to complete with other salt production centres. The Grand Banks fishing industry (which required large amounts of salt to preserve the fish) was one of the primary reasons for the industry taking off, but the discovery of cheap mineral salt in the late 19th century signalled the start of the decline.

There is little agricultural activity on the islands now: nearly all food supplies are shipped in from the United States, or bought from traders from the Dominican Republic and Haiti that sail up in sloops laden with sugar-cane, plantains, citrus fruits and other crops (and a not infrequent cargo of illegal immigrants). The decline in agricultural activity on the islands can be ascribed to a number of things: firstly it is easier to import food products; secondly, demand from the tourist trade is for 'North American' products, not local crops; thirdly, there is little local inclination to farm which is considered to be an occupation of last resort: dirty, hard-work and with little financial reward.

The Turks and Caicos Islands are a tax-haven and for a number of years has operated as a leading off-shore finance centre benefiting from its proximity to the United States and its connection with the United Kingdom which lends it a reputation for political stability. In recent years, however, the revenue from off-shore finance has been rapidly eclipsed by the revenue earned by the tourism sector. This sector has expanded rapidly in recent years and with arrivals set to rise to 42 internationals flights a week for the peak season 2000/2001 promises to provide an increasing supply of tourists. The expansion of tourism, however, has been somewhat lopsided across the islands and has not been without its costs, which outweigh the benefits in a number of areas, as will be discussed below.

The fishing sector is the oldest of the current economic sectors, and, despite its important role as a revenue earner for the country, remains sidelined both by government budgets and public attitude. The fishing industry is concentrated on two islands: South Caicos which is heavily dependent upon fishing and Providenciales which is less reliant upon this industry. It is the co-existence of fishing with the other revenue earners on the islands which is often an important, though not primary, cause of conflict.

Drugs have also played a considerable part in the (albeit 'black') economy of the islands. Reliable statistics are not available, and yet many of the stakeholders spoken to commented on the impact that the increased involvement in the 1980s drug trade had had upon the development of the islands and the evolution of the present day culture. At the height of the drugs trafficking period in the 1980s, the Turks and Caicos islands were a convenient mid-way point between the source in Colombia and the destination in the United States. The remoteness of the islands, the lack of diversification in the economy and the lack of capacity of the enforcement agencies made the islands an ideal re-fueling and transhipment point. South Caicos in particular, 'benefited' from the bulk of the drugs trade to the extent that it was known as the 'Big South' during this period and was considered to be a bustling cultural and economic centre on the islands; a distinct contrast to the South Caicos of today whose

position has been usurped by Providenciales. Many respondents commented that the prevalence of drugs money during the 1980s and the high salaries enjoyed by some of the population on South Caicos has had a serious impact upon development efforts since. While it is not possible to prove this assertion either way, the desire for quick returns and high profits gained through minimum effort evidenced in some sections of the economically active population may well be traced back to the 1980s drugs trade.

2 The fishing industry

Fishing and the harvesting of marine product has been important source of protein to the islands since pre-Colombian times. With limited agricultural potential on the islands, fish and salt were traditionally traded for produce from the USA and Hispaniola. Between the mid-19th century and the turn of the 20th whaling was important for Salt Cay and sponges were the most important export earner at the turn of the century, although blight and the increased use of synthetic materials at the end of WWII put an end to this. Turtle shell suffered a similar problem - with the use of plastics superseding it in importance. There are few viable fin-fish resources to be exploited on the islands (as is common with much of the Caribbean Basin), but conch and lobster now make up the principle catches. Lobster as an export crop took off in importance as canning and freezing technology advanced in the 1940s, whilst conch has always been important for local consumption.

In the 1950s, as the salt trade weakened and trade with Haiti slowed down (concurrent with economic collapse there) TCI residents moved out of the islands in search of work, consequently foreign fishermen moved in to fish. Jamaicans entered the fishery in 1958 (introducing traps into the lobster fishery), Haitians and Dominicans have also, at various times, been important contributors to fishing effort in the islands.

Nowadays, fishing on the islands consists of 3 principle activities: fishing for queen conch (*Strombus Gigas*) and spiny lobster (*Panulirus Argus*), targetted and by-catch fishing for finfish (mainly grouper and snapper) and sport fishing. Of these, the conch and lobster fishery is by far and away the most important socially and economically, although sport fishing contributes a significant amount of money to the economy of select sections of Providenciales in particular, South Caicos to a lesser extent. The conch and lobster fishery is unmechanised: fishermen operate out of small skiffs powered by a 70-90 hp outboard motor. Each boat carries 2-3 men (one driver or keep-up man, and 1 or 2 divers). Both conch and lobster are fished by free diving fishermen (artificial breathing apparatus is banned). On South Caicos and Providenciales, most conch and lobster finds its way into the processing plants for eventual export as frozen conch and lobster tails to the United States. There is currently no market for the export of live or whole lobster. With no processing facilities on the other islands, most product caught there is for local consumption and sometimes caught to order for the local restaurant trade. The processing plants control the price of the product (which is dictated by market climate in the USA and local operating costs) and pay the fishermen daily for product delivered to the plant. Many plants operate on a 'patron-client' basis whereby subsidised fuel is provided to the fishermen on the basis that the catch will be landed to that plant. Although a somewhat antiquated exchange system, it appears to work well (see further discussion below).

2.1 Government Level Fisheries Management Institutions

The Ministry of Natural Resources is responsible for the management of all natural resources on the islands. Within the Ministry there are a number of departments, the principle ones relating to fishing being: the Department for Environmental and Coastal Resources and the Coastal Resources Management Project.

The Department for Environmental and Coastal Resources (DECR) was created in 1994 when the Department of Fisheries and the Department of Environment, Heritage and Parks were amalgamated. The DECR is responsible for fisheries, land and sea based parks and other non-renewable coastal resources on the islands. Its responsibilities also include the implementation of international legislation such as MARPOL, the Montreal Convention and CITES (which governs the management of the conch stocks). (MRAG, 1999). The DECR has 3 offices: one each on Grand Turk, Providenciales and South Caicos. Foremost among DECR responsibilities is the management and enforcement of the national parks and fisheries. As will become apparent below, enforcement is a critical issue, and in late 2000 powers of arrest in national parks were extended to the Police. Although the islands have 33 national parks (divided amonst national (marine) parks, national reserves, historical sites and sanctuaries) as yet there is no National Parks Service, although this situation is in transition.

The Coastal Resources Management Project (CRMP) (funded by DfID) began in February 1999 to lay the foundation for a National Parks Service (NPS) and to set out concrete management plans for the national parks. To begin with the project consisted of the Project Manager and the Administrative Officer (both TCI Government Civil Servants) in mid-1998. The rest of the staff (non-civil servants) were appointed between September 98 and January 1999. CRMP was officially launched in the first week of February 1999. Attempts to have a National Parks Service had began in 1972, however there was never an established or appointed body to hold the roles. Legislation and other sorts of outputs have been implemented under an NPS concern (this was done by a PRIDE organization, the DECR, and other departments) but there has never been a unique NPS staff to initiate it or take responsibility for it. However, an established NPS, including a National Environmental Centre is one of the major outputs expected from CRMP (which is four year project).

The *Fisheries Advisory Committee* (FAC) acts as an advisory body to the Governor and the Minister. This committee meets on an *ad hoc* basis and consists of 6 members who represent the different stakeholders in the industry. The Chief Fishery Officer, as chairman, can submit members for election although the Minister in theory has final say on the election of a member to the FAC. The current make-up of the FAC contains no fishermen, but two representatives of the processing industry. Other members are citizens with an interest in the fishing industry, though not necessarily directly connected to it.

2.2 Local level institutions

There are no fisheries associations, organisations or unions on the islands. There are also no co-operatives of any sort operating within the fishing industry. On the face of

it, this is not unusual. Previous attempts to establish co-operatives have ended in failure for a number of reasons – not least of which was the disappearance of the funds leaving the fishermen highly reluctant to go down the same route twice. As will be discussed in more depth later, the population size on the islands and the small working units on the boats tends to mitigate against either the need for, or the context within which to set up, local level institutions to manage either the fishermen or the resources.

2.3 Fisheries management instruments:

Turks and Caicos Island fisheries are open access and held as state property. Entry to the fishery is currently not limited[7] but all fishermen require a licence. Of the wide range of licences issued for marine zone activities, the following are the most pertinent to the fishing economy[8]:

Commercial fishing licence: all operatives aboard a commercial fishing vessel require a licence. Commercial fishing is where a fisherman 'sells or otherwise disposes of for gain the marine products taken from within the fishing limits'[9].

Commercial fishing vessel licence: required for all vessels engaged in commercial fishing and can only be issued to the holder of a commercial fishing licence.

Sports fishing licence: authorises the holder to fish anywhere within the fishery limits and to retain no more than 10lb of product in any one day's fishing.

Sports fishing charter Vessel Licence: is required for the use of any vessel *for hire or reward* by anyone fishing within the fishing limits, limited by the provisions of the sports fishing licence.

Tournament fishing licence: This licence reflects the potentially high income that can be made from bill-fish tournaments and is required in order to participate in a tournament (as opposed to sport fishing *per se*)

Tournament fishing vessel licence: required for all vessels wishing to participate in a fishing tournament.

Ordinary fishing vessel licence: this licence is required by anyone wanting to go and fish, in a category that does not fit any of the other above (ie people wishing to take private vessels to fish for leisure)

The issuance of licences and the interpretation of the law as it currently stands has presented the island's authorities with a number of paradoxical situations which have led to conflicts, as detailed below.

[7] While there is no active limiting system, non-belongers are not permitted to hold a commercial fishing licence, effectively limiting entry to this part of the fishery on residency grounds.
[8] The Mouchoir Bank lies to the east of Grand Turk and requires a specific licence, not listed here.
[9] Turks and Caicos Government, Fisheries Protection Ordinance, Chapter 104, Part II, Para 6 (g), 15 May 1998

Establishing the number of commercial fishing licences issued (and thus the number of fishermen in the fishery) is not easy. There is no system with the DECR currently (save for personal knowledge) of distinguishing between full-time and part-time fishermen – an issue that was raised in a number of discussions with stakeholders and informed sources. The fees charged for licences in the fishery have not changed for a number of years. Annual fees of $40 are charged for each commercial fishing licence and $30 for each sport fishing licence.

Informed sources indicated that moves were likely to be made in the near future to limit entry to the fishery and to capture some of the resource rent through an increase in fees (which may also have the effect of limiting applications for entry to the fishery). There are a number of problems with the system as it stands: there are 'loopholes' in the law which allow non-belongers to fish legally in the islands' waters (an issue discussed at length below); tax benefits granted to holders of commercial fishing vessel licences has artificially increased the number of vessels licensed which not only makes assessment of effort difficult, but also provides leakage for potential import duties[10]; the low cost of entry to the fishery has resulted in a high number of part-time fishermen who enter the fishery at peak times when catches and profits are high and then leave.

2.4 The Fishery

The fishery comprises largely of the Conch and Lobster fishery.

Queen Conch. This is a relatively slow growing animal, reaching sexual maturity and minimum landing size (MLS) (7") at approximately 5 years of age. As a species protect under CITES[11], is managed by quota and minimum size restrictions[12] (although all CITES requires is that a minimum level of management is demonstrated). A herbivore, it feeds as it moves slowly along the sea floor, dragging itself along through the use of an extending hooked foot. Fishermen will swim on the surface until a conch or number of conch are spotted, at which time they will dive down to pick up the relatively immobile animals. A diver can pick up several conchs in one dive, before returning to the surface and depositing the shells on-board the Skiff. As the diver swims down for more, the keep-up man will 'knock' the conch; that is a small hole is made by a hammer or pick close to the top spiral on the shell and a knife is inserted into the hole, forcing the conch animal out of its protective shell. The conchs are amassed throughout the day on the bottom of the skiff in one of three small partitioned compartments. Often the conch will still be alive when eventually landed into the processing factory later on in the day. It is not unusual for a skilled boat to land between 3-500lbs of conch daily. The price paid by the processors to the fishermen is relatively low (25c/lb).

[10] Holders of commercial fishing vessel licences may avoid the payment of import duties on vessel parts. This has led, for example, to a sailing yacht being licenced as a commercial fishing and enjoying certain tax-break privileges as a result.

[11] As a result of the low level of stocks in Florida, Queen Conch entered Appendix 2 of CITES at the 11th hour during a meeting in 1995, although there was no suggestion that stocks were threatened in other places in the Caribbean.

[12] The minimum size for conch is 7 inches from the spiral tip to the foremost edge, or, if it has been 'knocked' then the meat, minus the digestive tract must weigh a minimum of 8 ounces (Chapter 104, Fisheries Protection Ordinance, 1998, Para 14)

The Queen Conch fishery is controlled through the application of a quota system, which has been arbitrarily set at 1.6 million lbs per year (this amounts to approximately 600,000lbs of processed conch meat). The quota is set by the Quota Management Committee and is allocated to the processing plants who have divided the allocation of the quota into three separate trench periods. The first period runs from August through to January with each main island allowed to process some 90,000lbs of conch meat (excluding trimmings – usable intestines and hard skin which is also processed). The second trench is from January through to April and represents a free for all fishery, the final period from May to August is a more enforced eking out of the remaining quota. The quota is split equally between 6 plants, 3 on South Caicos and 3 on Providenciales. Unusually the quota is allocated to the processing factories (seemingly on an agreed equal split basis. There is some common anecdotal evidence to suggest the impact of increasing fishing effort on the overall stock size, that is fishermen having to travel further and further and generally dive deeper to maintain catch levels, although there has been very little stock assessment work carried out. The School for Field Studies on South Caicos is currently involved in a programme that is attempting to establish a firmer stock assessment and it is anticipated that there may be room to raise quota limits in coming years as there is some evidence that it is currently being fished below MSY. The fact that some conchs live in deeper water, inaccessible to free divers, represents a naturally protected brood stock area. The possibility that some conch move closer inshore, cannot be discounted, and thus also the prospect of a natural replenishment of dive accessible beds.

Lobster is not managed by a quota, rather by a combination of closed season, which runs from April through until August, and minimum landing size (MLS) (84mm carapace length – which coincides with average length for sexual maturity). The lobster fishery opens in August with what is known as the 'big grab': a 1 or 2 week period when most of the annual catch is made. For a variety of reasons, the catch during the big grab can differ significantly: for example between 1 – 2 August 1999 49,000 lbs of lobster were caught, during the same period in 2000 76,000 lbs were caught. The lobster fishery is mainly a dive-based fishery, although there are 3 boats on South Caicos that are using traps (pots) in the fishery. Then dive technique consists of spotting the lobsters from the surface – towing of diver behind skiff – and then on spotting likely ground or forward antlers of the lobsters themselves, descent onto the ground and manipulation of the animal from its rocky burrow. Formally the main tool used for the manipulation process was a 'noose', a fibreglass pole with a rigid noose shape attached on the tip, which the diver would have to carefully move over the top body of the lobster and then tug, to extract the lobster from its burrow. In this way the diver would be able to extract the lobster alive from its burrow, but could often only land one lobster per dive. Methods changed and the advent of the 'hook' enabled fishermen/divers to increase the numbers of lobsters caught per dive and therefore increase the overall per day catch rate.

The hook works in the same way as the noose, except that the hook can be used in a much more aggressive manner. Once a lobster is located a diver can descend on the burrow and forcibly insert the hook behind the retreating lobster tail before digging the hook into the shell and pulling the lobster out. Some fishermen state that it is still better to extract the lobster quickly with as little struggle as possible as there is a

belief that some kind of warning noise is emitted from an animal under duress, which may be transmitted to other individuals sharing a rock or reef[13]. Use of the hook enables the diver to catch several lobsters per dive as the process is much less time consuming. The particular downside of this is that the lobsters are often badly wounded in the process and will likely be dead by the time the skiffs return to the factories in the evening. However as the lobsters are only to be tailed inside the factories (with the head part of the body discarded) rather than sold alive this issue is mostly irrelevant. Fishermen receive between $3 - $3.45/lb for landed lobster (trap caught lobsters fetch maybe 20 – 30 cents more per pound). For oversized lobster that is tailed the price increases to $4/lb due to the relatively smaller bulk.

3 The survey

The Survey was carried out between 6 – 23 November 2000 by 3 researchers from CEMARE who were assisted by staff of the DECR in the Turks and Caicos Islands.

3.1 The problems as posed by collaborators in Year 1 of the project.

A pilot study was conducted during October 1999 to establish an initial assessment of the type of conflicts in the islands and the extent of that conflict. Based upon this evidence, the field work approach for this year could be defined. It was recognised that fisheries conflicts had to be studied within the context of multiple marine-zone users. Initial discussions with stakeholders showed that major conflicts concerned:

a) the distribution of conch quota;
b) the widespread use of illegal fishing methods;
c) the presence of non-belongers in the fishery;
d) the co-existence of multiple users in the marine zone

3.2 Theoretical Framework

The purpose of the project is to examine conflict management in tropical fisheries and to ascertain a) the incidence and cause of conflicts; b) how they are managed and c) how present institutional arrangements might be strengthened to better deal with conflict management. The project is working within a new institutional theoretical framework, but specifically interested in how a change in communities affects institutional ability to manage conflict. In particular, the project is interested in how transaction costs impact upon the ability of the fisheries management institutions to manage conflict. Bearing in mind that it is not possible to measure transaction costs, the field work had to investigate issues around the subject of transaction costs in order to be able to ascertain a definition of the transaction costs present and the influence they were having on the institutional structure.

3.3 Methodology

Based on pilot study conducted in 1999, a list of stakeholders in the fishery was constructed, a number of interviews were then conducted with each of the stakeholder

[13] Until 1999 the use of the hook was ‘illegal’ but tolerated by fisheries officers. Use of the hook was finally legalised after pressure from the fishermen and the obvious high levels of illegal use.

groups. Focus group discussions were conducted with fishermen, sport fishermen and diving operators, while individual interviews were conducted with processors, government officials and other office-based professionals.

Estimated size and distribution of the fishing population:

Island	Type of Licence	Number issued to date (November 2000)
Grand Turk	• Commercial fisherman • Commercial fishing vessel • Resident Sport fishing • Ordinary fishing vessel • Sport fishing charter • National Parks • Visitor sport fishing	• 24 (est. 5 full time) • 12 • 4 • 5 • 1 • 15 • 9
South Caicos	• Commercial fisherman • Commercial fishing vessel • Ordinary fishing vessel • Sport fishing charter • National Parks	• 150 • 79 • 4 • 1 • 2
Provo	• Commercial fisherman • Commercial fishing vessel • Resident sport fishing • Ordinary fishing vessels • Sport fishing charter • National Parks • Visitors sport fishing permit	• 145 (est. 60% part-time) • 97 • 110 • 88 • 30 • 66 • 1,675

3.4 Sample size and distribution by island and stakeholder group

ISLAND	STAKEHOLDER	TOTAL RESPONDENTS
South Caicos	Fishermen (13) Processors (1) Sport Fishermen (2) School for Field Studies (2) Government officials (1)	19
Grand Turk	Fishermen (6) Fisheries Advisory Committee (1) Diving Operations (1) Tourism (1) Government (4)	13
Provo	Fishermen (12) Processors (1) Fisheries Advisory Committee (1) Sport Fishermen (2) Conservation bodies (1) Government (2) Conch farm (1)	20

3.5 The questionnaire

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: asking questions about what the principle conflicts are, what they think are the causes, how they are resolved, and which are the hardest to resolve and why.

Interviews with fishermen were conducted in focus discussion groups – fishermen have an innate mistrust of questionnaires, so focussed discussion were conducted, the questionnaires being completed later. Individual interviews were conducted with government personnel. Interviews with government personnel were all pre-arranged, interviews with fishermen were generally conducted as and when the opportunity arose: many fishermen are not on the telephone, thus the easiest method of finding and approaching them is at the dock as they set out in the morning, or when they return at dusk. A number of interviews were conducted in bars (a good source of fishermen after the catch has been deposited at the plant), but this approach was avoided where at all possible in order not to bias the survey results (younger men tend to frequent bars).

Turks and Caicos islands fishermen are wary of strangers and it was found that introduction by the local fisheries officer (known and trusted by the fishermen) helped suspicions to be allayed. By first targeting a well-known and respected member of the fishing community, other fishermen were far more likely to come forward to have their views recorded. With the exception of Providenciales, the islands are very small and word quickly spread about the project with the result that a number of people approached the project staff keen that their views were also represented. On a number of occasions 'interviews' were also conducted unintentionally: chance discussions with people in the street or at local businesses for example.

3.6 Background to the islands in the survey

There are six inhabited islands in the Turks and Caicos Islands, but time and financial constraints prevented a comprehensive survey of all the islands. Instead three were chosen that adequately represented the fishing industry, the different economic bases of the Islands' economy and the geological differences of the islands.

South Caicos: This is the only island heavily dependent upon fishing and with little other employment opportunities. The island has 3 processing plants that are the primary focus of employment on the island. There is currently little scope for tourism, although various development and construction initiatives have been started and semi-completed over the years. A sizeable proportion of the young population from South Caicos has out-migrated over the years – to Providenciales to pursue employment in other sectors, or to the United States. That said, the island exercises a powerful draw over its inhabitants, many of whom return to the island on holiday, or to partake in the opening of the Lobster season in August (more of which below).

Grand Turk: As the seat of the nation's government, the civil service is a major source of employment here. The tourist sector also accounts for a reasonable proportion of employment on the island. The fishing sector on Grand Turk is small as a direct result of a) its lack of a processing plant that can export; b) the distance of

Grand Turk from either of the other processing plants; c) the distance of the island from the Caicos Bank (a prime conch and lobster fishing ground) and d) the comparatively small conch and lobster grounds around the islands. However, the place of fishing within the community is interesting nonetheless in as much as the narrow coastal shelf has the potential of creating conflicts with the other users of the marine environment (Grand Turk is a popular dive location). Informed sources within the government, and fishermen reported that a certain times of the year (for example before Christmas and at the opening of the Lobster season) they migrate down to South Caicos for a number of weeks to take advantage of increased earnings potential there.

Providenciales: although Providenciales has a large fishing community, in terms of the island's economy as a whole, fishing is marginal when compared to off-shore banking and its satellite services, real estate and tourism. The island has 3 processing plants which, locally at least, provide a substantial source of employment. The main fishing grounds are the Caicos Bank and the waters around West Caicos. Infrastructure development on the islands is extensive which in itself is causing a number of environmental and sustainability concerns as well as a number of conflicts between different sectors of the economy. National Parks in Providenciales have also been the focus of great attention on the island (see below) and thus are a greater potential source of conflict than on other islands.

4 Conflicts Identified

Although prior assumption would lead one to expect levels of conflict on islands such as TCI would be high due to the lack of diversity in the economy, the geographical factors and the high number of marine environment users, this was not found to be the case. Violent conflict connected with the coastal environment is rare. At a local level conflicts within different stakeholder groups are few and far between. Conflicts between different stakeholder groups are also relatively rare. The main conflicts are to be found at the institutional level – between fishermen and processors, between government departments and on an ideological level between the diverse users of the marine environment.

4.1 Major conflicts identified

The following is a synthesis of the conflicts listed above, with some explanation of the context within which the conflict happens.

- Use of illegal fishing methods

Hooking of lobster and the use of bleach to extract lobster from their burrows were the two illegal fishing methods that caused conflict in the fishery during the pilot study in 1999. By 2000, the hook had been legalised (partly as a result of an overwhelming flouting of the law, and the Governor annual 'acceptance' of the practice. Bleaching now remains the most conflictual and common illegal practice used.

Conflicts as identified by different stakeholder groups

Stakeholder group	Conflicts identified	Source of conflict
Fishermen	• Conch quota size and distribution • Marine Parks boundaries • Illegal fishing methods • Lobster pot removal/theft • Rising number of non-belongers • Large number of part-time fishermen • Lack of enforcement	• Government • Government • Fellow fishermen • Dive operators • Fellow fishermen/government
Processors	• Conch quota size and distribution • Closed seasons	• Government • Government
Dive operators	• Fishermen's attitude • Fishing for sport	• Fishermen • Sport fishermen
Sport Fishermen	None	
Conservation/ national parks sector	• Flouting of park regulations	• Fishermen/tourist sector
Government	• Rising number of non-belongers • Large number of part-time fishermen • Flouting of licences law	• Fishermen • Fishermen • Fishermen and sportsfishermen

Bleach is used by fishermen to encourage lobster's to flee their burrows, thus making them easy to capture. Bleach not only causes damage to the lobster, but also causes irreparable damage to the reef. While the practice is illegal, it is very difficult to patrol – it involves catching fishermen with bleach in the boat, and proving that they intended to use it for fishing. As with many illegal-fishing practices, fishermen condemn the practice, none claim to use it (in so many words), and yet infer that everyone else does. Evidence from South Caicos – collected during this visit, and during previous studies of the island (MRAG, 1999) – suggest that there is conflict between those that do not use bleach and those that do. The conflict here is with the damage to a common property resource that all other users feel impotent to stop. As is explained below, the smallness of the islands' populations and the influence of 'negative' social capital all prevent the perpetrators being formally accused or brought to book.

Sources with the DECR acknowledge that this is a serious issue and as such are investigating the possibility of using a test-kit designed in North America that allows for the testing of bleached lobster (previously not possible). It is hoped that the very existence of this kit will act as a deterrent to bleaching.

- Lobster-pot removal/theft

Few fishermen use lobster pots (there is no market for whole or live lobster) yet this issue was mentioned both by fishermen on Grand Turk and by fisheries officers on Providenciales.

It would appear that the root of this conflict is competition for space within the marine environment, which is leading some divers to leave the Marine Parks and search for new dive sites elsewhere. A consequence of this, is that they end up operating in areas traditionally used by fishermen. Although most divers acknowledge that they enjoy eating fresh fish, they also prefer not to see evidence of such activity. This dilemma has led to fishermen reporting lobster traps cut open to free lobster and pots moved or stolen. In retaliation, fishermen have been known to cut the dive buoys of the divers they think are responsible for damage to their fishing gear. One particular incident, on fishing grounds around West Caicos escalated quickly, but was diffused by staff at the DECR in Providenciales – the only intermediary available to reach settlement on the matter. Similar activities have been reported around French Cay. This is a small uninhabited cay on the southern edge of the Caicos Bank. Again, divers searching for new dive sites have found themselves competing with fishermen.

- Size and distribution of the conch quota

As described above, conch is managed by quota, but unlike the majority of fisheries, the quota is allocated to the processing plants, not the fishermen. The size of the global quota is determined by the DECR based on stock assessment data. There is a Quota Management Committee that reviews the size of the quota and its distribution amongst the various plants (an even split between all of them).

There are 6 plants on the islands, all of them Grade A export plants – this means that they have complied with HACCP regulations and have licences that allow them to export food products. Because most of the quota is exported, only those islands capable of exporting have quota: Grand Turk had a processing plant until a few years ago when it was closed down by the Public Health Authorities. Fishermen interviewed on Grand Turk stated that they would like some of the quota – but in reality this seems unlikely to happen. Some fishermen on South Caicos also expressed an interest in quota being assigned according to number of fishermen and need: on the basis that South has marginally more fishermen, but a less diversified economy than Providenciales. When this issue was put to one of the processors in Providenciales, he replied that the quota should not be adjusted to reflected South Caicos' greater need because they all pay the same licensing fee every year (around $8,000) and should therefore all receive the same amount of quota.

The quota on South Caicos is 'managed' by the plants in so far as the 300,000 lbs (processed product) is divided into 3 tranches (4 months each): the first of 90,000 lbs, the second tranche is a 'free for all' and the final tranche consists of the as yet unused quota. One of the benefits of splitting the quota up is that the plants are better able to manage their capacity: bearing in mind that they process lobster as well and often go through peak periods followed by lean periods when throughput is greatly reduced, but with running costs remain the same.

The perception of conflicts around the size and distribution of the quota varies depending upon the respondent. Not surprisingly, the fishermen all state that the quota should be larger – or abolished altogether. The processors would like more quota (whether this means more quota from other plants or an overall increase was not clear); the government on the other hand tends to see the conflict on a much broader scale: recognising that allocating the quota to plants is a second-best solution, but probably the best arrangement at the moment. Informed sources within the government did float the idea of moving towards a system whereby quota was allocated to fishermen, but recognised that this is a long way off: some form of restrictive entry first needs to be established, then track records established before any radical change in the quota system can be attempted.

- Closed lobster season

This was raised by the processors interviewed on South Caicos, and also by a processor on Providenciales. The source of this conflict is the glut of product that arrives during the first week of August (during the Lobster grab) and the subsequent lean periods. Although the processors expressed problems with the closed season, none of them offered a solution to the problem.

- Rising number of non-belongers in the fishery

This is a particularly thorny issue and one that is likely to get worse before it improves. It was an issue consistently raised by all the fishermen interviewed.

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 situation is not entirely clear, there are a considerable number of non-Belongers working in the commercial fishery – with licences issued by the relevant authorities. The law also states that 'the holder of a Commercial Fishing Vessel Licence [….] shall not without the prior consent of the Minister in writing 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, however, confirmed that many vessels went to sea without the required Belonger on board.

The key part of the problem, however, is that a Belonger fisherman can apply to the Minister to have assistance on his boat (ie someone who does not hold – or is not entitled to hold – a commercial fishing licence). Anecdotal evidence suggests that this caveat was introduced when Belongers complained that they were unable to get locals to work with them on the boats – yet there were plenty of Haitians (and to a lesser extent Dominicans) who were willing to work for them. If a fisherman can prove that he is physically incapable of fishing (which in effect means that he is no longer able to dive) due to age or infirmity, he may employ others to work alongside him. After receiving permission from the Minister to this effect (see above), the 'assistants' must then apply for a work permit and, on receiving this, may assist in commercial fishing practices. As mentioned above, however, this situation is widely abused.

The implications of a rising number of non-Belongers in the fishery are complex.

Firstly, any reduction in effort that might come about through natural wastage is negated and second, as a result of this, competition for resources between Belonger and non-Belongers continues to climb. Third, although natural wastage has to be the preferred means of effort management, there is little evidence that those Belongers remaining in the fishery would be able to catch sufficient product (using the gear currently available) to keep the 6 processing plants in operation. Fourth, as a significant means of employment for women on South Caicos and in Five Cays district in Providenciales (many of them Haitian themselves), any reduction in Plant throughput would inevitably mean laying off staff which would impact dramatically on the socio-economic conditions of one of the poorest sections of the community. It could, therefore, be surmised that it is in the plant owners' interest to maintain catch (and thus effort) at its current level, although it is clearly not in the interests of the fishermen.

A reduction in effort in the fishery would have a number of consequences: 'wages' for fishermen would have to rise. Belongers split the catch according to the number of Belongers on board, plus the boat. Haitians are paid at a daily rate by the vessel owner (anecdotal evidence from South Caicos suggests that Haitians are paid as little as $2.50 per day although this would appear to be spurious). There is widespread opinion in many quarters that Haitians are so prevalent in the industry because they are cheap to employ and Belongers do not want to work as fishermen. Were Haitians to be prevented from fishing, the only way to entice Belongers into the fishery would be to improve conditions which would inevitably increase costs (the share of the catch for a Belonger would cost more than paying a Haitian for a day's work)

A reduction in effort might also have a serious impact on the processing plants – unless catch rose to compensate. There are currently 3 plants on each of South Caicos and Providenciales. The plants set the purchase price for conch and lobster – dictated by the price on the market in Miami (the prime destination) or by other large scale importers (a good part of Provo Conch and Seafood's exports go to a company in Chicago for example). Unless catch rates by a smaller number of fishermen could be improved, the islands would be unable to sustain all the plants and the less economically efficient would go to the wall. Likewise, one would presume that were an efficient and transparent market to operate for conch or lobster on either of the islands, economic incentives would encourage fishermen to innovate more than they do at the moment. Although legislation restricts the type of gear that may be used, there is no evidence of any fishermen aiming to increase the value of his catch by, for example, introducing cool boxes to protect the product or aiming to make his venture more economically efficient by increasing the size of his vessel. The only evidence of technological adaptation in the fishery is the use of ever increasingly powerful outboard motors (Informed sources, DECR, 2000).

- Lack of enforcement

While this is not a 'conflict' as such, it was an issue raised on many occasions by the fishermen. They grievances lie in a number of quarters: firstly the perceived lack of enforcement of poaching vessels. These generally arrive from the Dominican Republic, are large fishing vessels that fish illegally (on both sides of the Marine Park boundaries) and on occasion are caught, the vessel impounded and the crew arrested.

However, the DECR admit that there are probably a number of vessels that escape detection due to the lack of capacity for effective enforcement. The second grievance lies with the DECR's perceived lack of enforcement of non-belongers fishing without licences. Although a number are caught, it is acknowledged that a considerable number avoid capture. From the DECR point of view, one of their problems with enforcement lies with the Billfishing Tournament which takes place in Providenciales every July. Each year the organisers of the Tournament negotiate the waiving of licences for contestants (the only explanation for this appears to be political favours). At $100 each the amount of revenue lost each year from this amounts to some $5,000. Despite promises from the organisers to donate some of the profits from the Tournament (which is a considerable source of revenue for many sectors of Providenciales) to educational scholarships, this has not materialised either. Although this is a relatively minor matter, it is interesting to note that this is one of the few areas where Sportsfishing comes into conflict with the government sector.

- Presence of part-time fishermen in the fishery

This was an issue raised by a number of DECR personnel and also by the (full-time) fishermen themselves. There are currently no restrictions on who can apply and be issued with a commercial fishing licence (except of course nationality, as mentioned above). As a result, a large part of the commercial fishing licences issued to date for the year 2000 have been issued to part-time fishermen (that is, fishermen that do not make their living from fishing). For example, of the 160 licences issued on Providenciales to date, it is estimated that up to 60% of these are not full-time fishermen (informed sources, DECR, 2000). Sources within the DECR are contemplating tightening up the rules to prevent part-time fishermen from participating in the fishery, but this will cause more conflicts than it is likely to solve. Firstly, it is not perceived as a conflict by fellow-fishermen (although during peak periods such as the opening of the lobster season they would benefit from less competition on the fishing grounds); secondly, the cultural and ethnic ties associated with fishing and the Turks and Caicos Islands are very strong. The right to return to one's home island and fish is considered to be an integral part of one's national identity and moves to break this link would likely be strongly contested. Thirdly, and perhaps most importantly, many Islanders living overseas retain voting rights. Any move to effectively 'disenfranchise' them from their cultural heritage might have dramatic political implications as fishermen switch their votes to a party that supports their rights to return and fish periodically.

Real problems associated with the large number of part-time fishermen in the fishery are a) increased effort at key points in the fishing year – particularly during the Lobster grab in the first week or two of August. Increased effort obviously means increased competition and the real possibility of lower earnings for full-time fishermen; b) part-time fishermen are considered to be less-skilled than their full-time counterparts, and there are worries about damage to reefs caused by such fishermen.

- Fishermen as environmental destructors.

A serious ideological conflict exists between the dive operators, sports fishermen and the fishermen – although this conflict was never voiced by the fishermen themselves.

There is a widespread view among dive operators in particular that fishermen are wilfully destroying the marine environment, over-fishing local stocks and pay little regard to other users of the marine zone. Dive operators interviewed cited a lack of education and thus educational awareness as prime problems in this regard. Improved education from elementary school upwards was considered to be the only way to inform fishermen of their impact upon the environment and the value of strict management of marine resources. The issue of education was also raised by staff at the School for Field Studies on South Caicos. Here the tenor of the argument that while environmental awareness had come a considerable distance in recent times, there was still a long way to go, and younger Belonger fishermen were more aware of their impact on marine resources than older fishermen.

To be fair to the fishermen, there is a fair amount of 'mis-information' circulating within the non-fishing marine sector. For example, although conch is managed by quota to meet CITES requirements, and has been for a number of years, some dive operators believe that the conch quota had been imposed on South Caicos to protect rapidly depleting stocks. Divers visiting Grand Turk were urged not to discuss the presence of grouper with fishermen, for fear that the fishermen would immediately go and fish out the stock. Such erroneous information, which fails to acknowledge the rules of the Marine Parks (which prevent fishermen from engaging in commercial fishing within the boundaries) and also fails to appreciate that no fisherman is likely to fish for more grouper than he can sell (to what is a small and isolated market) continues to spread the myth that fishermen are irresponsible and wasteful users of the marine environment.

- Boundary markings of marine parks

As has already been mentioned, real interactions between fishermen and other users of the marine parks are limited and in general the issue of marine parks did not figure highly on fishermen's lists of conflict. However, one issue regarding marine parks that causes conflict is the marking of boundaries. Although few local arrests happen regarding this issue, it is a point of contention with fishermen, and indeed with other users of the marine zone.

Informed sources within the Ministry of Natural Resources commented that with a number of the parks there was little logic as to where the boundaries had been placed. Although the boundaries are marked on maps, fishermen as a rule do not take such maps to sea with them, and there are few or no markers at sea to indicate boundaries. In many circumstances this is a moot point as the fishing grounds to not coincide with the parks, it is only an issue at the margins where the spatial difference between the two is small.

As far as other users of the marine areas are concerned, the Parks in Providenciales are further demarcated to segregate snorkellers, jet-skis, para-gliders and water skiiers. Understanding that remaining within boundaries is not always easy, it was reported that a certain degree of tolerance is exercised and the needs of many of the users are traded-off against each other to within certain limits.

- Other issues within the fishery.

Obtaining objective views of the fishery and the conflicts that affect it is often hampered by the close-knit community and the influence of political allegiance on many leading members of the community. In order to obtain an overview of the situation that was, hopefully, relatively free of bias and subjectivity, an interview was conducted with a number of staff at the School for Field Studies (SFS). The School for Fields (as it is known locally) holds a unique and privileged position with the South Caicos community. It is largely staffed by non-belongers who arrive on the islands from Europe and North America and stay for a couple of years. The students are all foreigners. As a result, the school is in a position to offer something approximating an objective view on certain aspects of the fishing industry (always bearing in mind of course that the opinions it is able to express are somewhat dictated by the confines of its residency on a small island).

There are three processing plants on South Caicos: owned by Christy Hall (ex-Acting Director of the DECR); Lewis Cox and Jimmy Baker (who is Cox's son-in-law and owns the newest plant). An issue voiced by the SFS was that of the clientalist nature of the relationship between the processors and the fishermen. The fuel concession on South is owned by one of the processors and is 'loaned' to the fishermen on the basis that they will pay for the fuel out of the proceeds of that day's catch. With foreign orders to fill, the processors can largely dictate what is caught by the fishermen, and of course the processors set the price (which in itself is largely dictated by factors outside the influence of the islands). There is little doubt that the processors exercise a considerable amount of power and influence over the fishery – a view expressed by other respondents on other islands as well. The influence of the processors over the fishery extends to their involvement in the fisheries advisory committee (see below for more details). However, it must be pointed out that no fishermen interviewed expressed any concern or problem with the current relationship between themselves and the processors – largely because it appears to work quite well even if it appears rather odd to outsiders.

Conflicts by island

Island	Main source of income	Description of fishery conflicts
Grand Turk	Government Service sector	• Occasional conflict with tourist sector • Lack of sustainable or reliable market for produce • Presence of non-belongers in the industry
South Caicos	Fishing	• Use of illegal fishing methods • Pricing issues with plants • Distribution and size of conch quota • Presence of non-belongers in the industry • Number of part-time fishermen in the industry
Providenciales	Service sector Government Fishing	• Pricing issues with plants • Distribution and size of conch quota • Presence of non-belongers in the industry • Number of part-time fishermen in the industry • Interaction with other users of the marine zone

On the whole, the types of conflict mentioned by each of the stakeholder groups varies little across the islands – although interaction with other users of the marine space is a particular problem on Providenciales and South Caicos and to a lesser extent Grand Turk suffer from problems related to the size of the island and the lack of alternative employment.

4.2 Types and Causes of conflicts

Economic issues

The economic basis of the islands is not so much a cause of conflict as an influencing factor. The role and power of the processors, especially on South Caicos, is a direct reflection of the economic base of the island – with little other source of employment and no other means of exporting product, the processors are the key to the fishermen's continued survival. To an extent this same argument applies to Providenciales as well where fishermen are unable to export product without the processors who have the financial capacity and networks to organise export markets. As a possible cause of conflicts, the symbiotic relationship between the fishermen and the processors is to a large extent the product of economic factors.

The conflict over non-belongers in the industry is also an economic issue: Haitians (who account for the vast majority of the non-belongers who fish) are an economic necessity to the islands and yet are the scape-goat for many of the islands economic

problems. From an economic point of view, the Haitians' exit from fishing would change the industry quite considerably on many fronts as has already been explained.

The tourist sector plays a very interesting and paradoxical part in the economic life of the islands. As a primary source of income (both in terms of receipts from tourists and a source of employment for many on Providenciales and some of the lesser islands) it both helps sustain the economy of the islands and yet at the same time is a primary source of problems: environmental in terms of the impact of the industry on the marine environment and ideological in terms of the interaction between the objectives of the tourist industry and that of the other users of the marine environment (namely the fishermen). On a more basic level, a number of respondents highlighted the practical problems present on South Caicos. There is one bank on the island (a branch of Barclays) which is open on Thursdays for about four hours. Some real consequences of this are that there is a low propensity to save money on South Caicos – fishermen are paid daily and the lack of banking facilities discourages any real attempts to save money. The instant gratification which the absence of a bank perhaps exacerbates could also be linked to the short-term attitude of many of the fishermen to the marine resources: catching as much as possible as easily as possible to make money rather exercising restraint and 'banking' the resources for a future date.

From a policy point of view, economic factors are also aligned with political factors and, especially in the context of small islands (as is explained below), this can make fisheries management extremely difficult.

Spatial issues

Although the Turks and Caicos islands cover a considerable area, there is still competition for space from a diverse number of users. The fishermen do not land on the beach, so problems of direct tourist/fishermen conflicts do not happen. However, as has been described, as the number of tourists rises, and the number of tourists seeking a different and 'unspoilt' environment rises, so encounters between fishermen and divers, to name but one group, is bound to climb. A resident of Salt Cay reported how there were conflicts there over the practice of fishermen gutting fish and knocking conch in the harbour – presumably because this practice was felt to be unsightly for visitors. This however was the only example found of such a conflict. Some of the national parks on Providenciales are already at full carry capacity – with the prospect of activities having to be restricted in the future – and yet tourist numbers are set to rise during the current peak season (2000-2001).

Ideological issues

With so many diverse users of the marine environment, there is bound to be a clash of ideas and views on how the coastal zone should be used and who should be making decisions about this. Fishermen do not appear to have any ideological problems with other users (except to a minor extent with the national (marine) parks). However, fishermen are frequently seen as the source of ideological discontent by, principally, the conservation/tourist sector. This in itself is an interesting situation given that the fishermen and the tourist sector rarely meet at sea and fishing activity on land is restricted to an obscure corner of Providenciales, far from the main tourist centres.

Political issues

Political conflicts include those where the source can be attributed directly to the way the political process (both formal and informal) works. Political and economic issues are closely aligned in the Turks and Caicos Islands (as is explained above). However, on a purely political front, the differing responsibilities of each Ministry and department with regard to the fishing-tourist-environment interactions certainly increases 'transaction costs' even if they are not directly attributable to conflicts directly. Conflicts such as the rising numbers of non-belongers and part-timers in the industry can both be placed in this category. Part-time fishermen form an important part of the electorate and moves to change their status is likely to involve lengthy political debate regarding the nature of TCI identity (among other things). The issue of non-belongers is an even bigger political hot-potato and because of the economic dependence upon Haitian workers (especially) is likely to prove a difficult conflict to solve. Political conflicts also owe a great deal to the debate on social capital (outlined below) and are often prevalent on small islands where the dissemination of information and rumour is highly efficient and the ability to get the political ear of an influential person is comparatively easy.

Legal/administrative issues

The final type of conflict is the legal/administrative type. Distinct from political conflicts, these tend to emerge as government paperwork and bureaucracies create situations of tension and difficulty between marine zone users. Legal-administrative conflicts can be highly prevalent in economies where the political process is flawed or not as transparent as it might be. This, however, is largely not the situation in the Turks and Caicos. However, the small size of the population and the nature of small-island politics do lead to these types of conflicts when rules are bent to avoid upsetting family members. Lack of enforcement on TCI is a clear legal/administrative conflict. The enforcement authorities face clear physical problems in patrolling such a large area with low resources (although this issue is being addressed at the moment). However, the social capital effect also makes enforcement difficult when familial networks are large and there is a sense of 'duty' to kith and kin. The issue of the FAC sits quite happily under this category, as it does under the politics category.

4.3 Explanatory factors of conflict

The small-island factor is certainly an important element to understanding how conflicts emerge and indeed how they are resolved in TCI. 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. However, the smallness can also be a positive factor in preventing conflict escalating out of control. The key to understanding this phenomenon is 'social capital' or the glue that holds society together. The social capital theory states that the amount of 'social capital' any one person holds, enables them to negotiate their way through life. The more social capital one holds, the easier and smoother life can be: socialising with the Plant owner, the local MP or important lawyer is likely to make for an easier life compared to the person that does not know or socialise with people who command power or respect within society. On islands as small as the Turks and Caicos, accumulating social capital is comparatively easy. Social capital and intra-familiar and island networks are also an important factor in the enforcement of

fisheries – most fishermen are aware of who is doing what. Social capital might also explain why no systemisation or organisation of the fishermen has emerged – because social capital and networks fulfil this function.

5 Conflict resolution

There are a number of key formal and informal institutions in TCI that interact with the fisheries economy and play a role in conflict resolution:

- The Department for Environmental and Coastal Resources

The DECR has two obvious conflict resolution roles: that of enforcement and that of the FAC (see below). Although it is not easy to equate enforcement with resolution, the presence of an active and able enforcement body does help to reassure fishermen that conflicts (with poachers for example) are being dealt with and that the 'deterrent' mechanism is working to help reduce potential conflicts over illegal fishing methods (for example). There is a DECR office on each of the main fishing islands and there is nothing to stop fishermen approaching staff directly when there is a conflict that needs to be dealt with.

- The Coastal Resources Management Project

CRMP has no active or official role to play in conflict resolution, but, staff in the CRMP office did report incidences where aggrieved parties had approached them directly over a conflict (pertaining to one of the national parks) and the CRMP had been able to help the two sides reach a compromise.

- The National Trust

The National Trust occupies a unique position in the context of coastal zone management and conflicts. As a non-political and non-profit organisation, it is, to an extent, able to divorce itself from the restrictions placed upon government organisations. The National Trust's remit includes "conserving the natural and cultural heritage of the Turks and Caicos Islands, raising environmental awareness and involving the community and promoting sustainable development by integrating the economy and the environment" (National Trust, Review for the years 1997-1999, pg 3). Although the National Trust has no specific role in fisheries, it does have a role to play in the management of the national parks and as such may well act as a release value and a balancing act between the government departments involved in the same area.

- The Ministry of Natural Resources

In terms of day-to-day resolution of local level conflicts, the Ministry has no role. Yet, on an institutional level, the MNR has a vital role to play in mediating between the differing departments and their needs at a ministerial level and also with negotiating and mediating with other Ministries who are sometimes the source or cause of conflicts.

- The Fisheries Advisory Committee (FAC)

There are 6 members of the FAC: one on Grand Turk, four on Providenciales (one processor) and one on South Caicos (also a processor and current Chair).

The FAC exists as the only official means of providing an information bridge between fishermen and the management level of the industry, however, the reliability of this form of conflict resolution is doubtful. Even processors who have good access to the committee (largely through membership themselves) commented that there should be more meetings of the FAC, the previous meeting having been several months previously. The respondent also felt that there was very little consultation between fishermen and the fisheries managers, going on to suggest that there should be a stronger fishermen-processor alliance (albeit a cooperative – something the fishermen are opposed to). In reality, other factors related to non-formal institutions probably usurp any conflict resolution role that the FAC may deploy albeit unofficially.

Informal or semi-formal institutions are harder to identify, but among the more obvious can be found: a) extended family networks; b) political allegiance and c) social capital. Precisely because 'everyone knows everyone else' crime on the Turks and Caicos Islands is low compared to other places in the Caribbean. The same factors that help keep crime low are the same ones that help keep conflicts to a minimum – there is little social differentiation between processors and fishermen – they all drink in the same bar, attend the same churches and are frequently related to some degree or other by marriage. Likewise with fisheries officers – they too socialise with processors and fishermen on many levels and thus small conflicts can be resolved frequently before they escalate into anything more serious. However, it must be added that the social capital that helps reduce conflict can also prove to be a hindrance in so far as tough decisions can be harder to take - both politically and economically.

6 Transaction costs and conflict management

The term 'transaction costs' covers myriad different meanings. On a very basic level, it refers to the costs of a transaction (cashing a cheque for example), however, it is now also commonly used on a more esoteric level to refer to the cost of information needed in daily negotiations (from buying and selling goods to contracts of employment to resolving conflicts). Transaction costs have been referred to as the economic equivalent of friction in the world of physics: the greater the transaction costs the 'stickier' the economic transaction. Although attempts have been made to measure these 'esoteric' transaction costs, these have all involved measuring proxies – the transaction costs themselves are not identifiable and as such not measurable in the strictest sense.

NIE argues that institutions evolve to minimise transaction costs: cooperatives evolve to reduce the cost of buying and selling goods, common property resource management arrangements evolve to improve information sharing and thus reduce the costs of management. Thus, if transaction costs rise to the point that institutions are unable to evolve fast enough to meet the new challenges, the institution may at best fail in its functions and at worst collapse. Conflict is a likely result of either of these outcomes.

By assessing the degree of change and the strength of institutions, it may be possible to identify where transaction costs are rising beyond the capacity of institutions to deal with them and situations where transaction costs remain stable. In terms of the Turks and Caicos Islands the following could be interpreted as situations where transaction costs are rising:

- The rising number of Haitians in the fishery is putting pressure on finite resources and raising levels of competition. Local informal institutions have to negotiate access to stocks and quota with a rising number of individuals, many of whom may not share the same ethos about the resource.
- The rising number of users in the Marine Parks is putting increasing pressure on the formal institutions that manage those parks: first because the number of complaints and minor conflicts is on the rise, second because an increasing number of ideological stances and objectives need to be reconciled

However, there are a number of examples where transaction costs could be described as stable:

- The relationship between fishermen and processors is very much a symbiotic one and appears to be stable. Rising pressure on the resource may well alter this relationship if product prices fail to keep pace with fishing costs. In the meantime however, the transaction costs involved in fishing and selling product appear to be stable.
- The small-island factor is also helping to keep transaction costs to a minimum as far as conflict resolution is concerned. The costs involved in approaching a member of the Fisheries Department for example are low. Negotiating the settlement of a minor conflict is relatively straightforward with access to primary decision-makers easy and cheap.