Project no. 003711

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**Project title:** Ecosystems, Societies, Consilience, Precautionary principle: Development of an assessment method of the societal cost for best fishing practices and efficient public policies

**Instrument Specific Targeted Research Or Innovation Project**

**Thematic Priority** PRIORITY A.2.2, Reconciling multiple demands on coastal zones

Report D2.11 : Tobago Case study presentation

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**Organisation name of lead contractor for this deliverable:** EMU

**Revision [draft 1 ...]**

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<th>Public</th>
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<th>Restricted to a group specified by the consortium (including the Commission Services)</th>
<th>Confidential, only for members of the consortium (including the Commission Services)</th>
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Market types

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Subsidy on vehicle to be used in commercial fishing

Costs of management

Trade measures

Fiscal measures

Major fiscal measures, incentives etc.

Fishing agreements

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Case study identification and selection

Completion of Economic tables

The primary problem with the completion of the economic tables leading to the selection of the métiers was that of data. Data was sourced from two separate locations, the project database of the “Sea Around Us” project, and the Tobago fisheries division. Both data sets were contradictory and led to an emphasis on different métiers. It was decided that the data sets used, and the métiers chosen, should follow that closest to the primary data collection process, that is, the data from the Tobago Fisheries Division.

We thank Mr. Caesar of the Tobago Fisheries Division for his invaluable assistance in the collection of this data, and for giving us access to the databases of the Tobago Fisheries Division.

The data sets obtained showed aggregated fisheries data for both Trinidad and Tobago. In order to arrive at data for Tobago we ‘isolated’ the available data set. The isolation was done on the assumption that most of the reef associated fishes caught in Trinidad and Tobago will actually be caught by Tobago fisher folks. This is a viable assumption, given that much of the Trinidad catch is found in the waters of the Gulf of Paria and there are no significant coral reefs around the island of Trinidad. We therefore identified those known reef associated fishes in the data and linked their catches and values to Tobago.

In terms of fleet, as is supported by the FAO report, the fishing industry in Tobago is quite small and supports mainly an artisanal inshore fleet made mostly of open decked boats such as pirogues and bum boats powered by outboard motors, as well as a few ice-boats. The conclusion therefore is that there is only ONE type multi-gear fleet operating in Tobago.
The following are some table-specific notes:

Table 1 gives main species by landings. The last row gives the percentage contribution of each year to the overall total.

Table 2 gives main species by value of landings.

Table 3 gives total landings by fleet. Given that there is only one fleet associated with Tobago reef fisheries, these values are the aggregation of the figures of Table 1.

Table 4 gives value by fleet. Given that there is only one fleet associated with Tobago reef fisheries, these values are the aggregation of the figures of Table 2.

Table 5 gives landings by species by fleet. Given that there is only one fleet, this Table is identical to Table 1.

Table 6 gives value by species by fleet. In the presence of only one fleet, this Table is identical to Table 2.

Table 7 (seasonality of metier), Table 8 (volume of landings by metier for a reference year) and 9 (value of landings by metier for a reference year) are for the moment incomplete with the absence of monthly data for Tobago fisheries. We continue to search and are hopeful of sending these completed Tables as soon as possible.

**Presentation of main fleets**

There are essentially two types of fishing activities undertaken on the island of Tobago: artisanal or small-scale fishery and the semi-
industrial fishery. Landing occurs at 32 landing sites around the island.

As seen in the photo above, three types of fishing vessels operating within the Tobago fisheries: bumboat (foreground), pirogue (middle) and multi-purpose semi-industrial vessel (background).

The small-scale fisheries dominate the fishing industry in Tobago. As the table below indicates, there are 684 units registered vessels operating within the small-scale fisheries with 1,039 registered fishermen. The small-scale fleet is made of primarily small open-deck fibre glass pirogues. These are mostly small, open-deck vessels operating inshore. The fisheries are multi-species in nature with the majority of harvesters being artisanal or small-scale operators.

The semi-industrial fleet is made up of 10 multi-purpose fishing vessels. The semi-industrial mainly targets flying fish, which is not
classified as a reef-associated fishery. Therefore, for purposes of
the coral-reef fisheries, Tobago is considered here to have only one
fleet, consisting of artisanal pirogues.

Table 1.

<table>
<thead>
<tr>
<th>Type of Fishing Activity</th>
<th>Artisanal/Small-scale</th>
<th>Semi-industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Registered Vessels</td>
<td>684</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: D.M.R.F Tobago

**Presentation of main gears**

**Main gears used by the main fleets**

The fishing gears generally employed are fish pots, line fishing and
demersal long lines. Catches are primarily pelagic fishes that have
some close connection to the coral communities which exist around
the island.

**Methods of Fishing**

**Drifting**

A drifting longline consists of a mainline kept near the surface or at
a certain depth by means of regularly spaced floats and with
relatively long snoods with baited hooks, evenly spaced on the
mainline. Drifting longlines may be of considerable length. Some
drifting longlines are set vertically, each line hanging from a float at
the surface.
**Trolling**

Trolling involves towing baited hooks or lures through the water. In Tobago, the lines with the baited hooks are attached to bamboo rods. The method is particularly suited to the capture of pelagic species of high individual value. Examples include tuna (albacore and skipjack), wahoo, dorado, barracuda and salmon. The pictures below shows a pirogue outfitted with trolling bamboo rods and examples of the types of fishes which are caught using this type of gear and fish method.
Fish potting – use of traps

A pot is designed in the form of cages or baskets, small or large (with dimensions ranging from around half a meter to two), made from various materials (wood, wicker, metal rods, wire netting, plastic etc.). They might have one or more openings or entrances. Most of the pots are set on the bottom, while a few models are designed to be in mid-water. Pots are used with or without bait, depending on the target species. The bait is composed usually by pieces of fish, but also common is the use of artificial flavourished baits.

Banking

Banking targets demersal fish, which live on or near the sea bottom. These include red fish, salmon and croakers. The boat is stationary and the nylon lines used are usually baited with several hooks.
The preferred bait for many fishermen vary between herring, mullet, sardines, bonito, shrimp, crab, squid.

**Beach seine**

A beach seines is a seine net operated from the shore. The gear is composed of a bunt (bag or lose netting) and long wings often lengthened with long ropes for towing the seine to the beach. The headrope with floats is on the surface, the footrope is in permanent contact with the bottom and the seine is therefore a barrier which prevent the fish from escaping from the area enclosed by the net.

**A-la-vive**

With a-la-vive fishing, live fish is used as bait, which is attached to a single hook, which in turn is attached to a nylon line. The bait is allowed to swim freely attracting pelagic fish such as carite, kingfish and cavalli.

**Presentation of main species**

Catches are primarily pelagic fishes that have some close connection to the coral communities which exist around the island. Among the species caught are albacore, bonito, dolphinfish, jacks, king mackerel, sharks and tunas. Some fishermen are also engaged
in some form of semi-industrial offshore fisheries catching mostly flying fishes. Flyingfish (Hirundichthysaffinis) are fished off the north and west coasts of Tobago using multi or monofilament drift nets about 6-10 m long, (Sturm and Manickchand-Heileman, 1998).

Main Species as per Tobago data

- Wahoo
- Dolphin
- Bonito
- Kingfish
- Snapper
- Plumhead
- Grouper
- Grunt
- Tuna

Presentation of main fish chains

In Tobago, all small pelagic, with the exception of flying fish, and the medium size pelagics landed are consumed fresh. In fact the only form of processing that takes place with these catches is gutting which is done right at the landing site by the fisherfolks themselves. There are six processing plants operating in Tobago. These processing plants however cater exclusively to the flying fish industry.

In summary all the fish catches on the island of are consumed domestically, whether on the island of Tobago or its much larger sister island Trinidad. The main markets for the catches are hotels, restaurants, the occasional fish vendor and households.
The fish chain for reef or reef associated fish catches on the island of Tobago starts with the harvest/production and ends with final consumption. Very little or no processing takes place between the activities of production and consumption.

**Table 2: Flows of fish from production to processing (live weight equivalent)**

<table>
<thead>
<tr>
<th>Production</th>
<th>Processing</th>
<th>Means of transportation</th>
<th>Final market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic artisanal production</td>
<td>Fisherfolks/Local fishmonger</td>
<td>None</td>
<td>National market</td>
</tr>
<tr>
<td>54784 lbs/year</td>
<td>54784 lbs/year</td>
<td></td>
<td>54784 lbs/year</td>
</tr>
</tbody>
</table>

**Synthesis presentation of all metiers**

**Identification of major metiers**

**Table 3: synthesis table presenting the relevance of case study selection regarding ecology, economy and sociology**

<table>
<thead>
<tr>
<th>Case study No</th>
<th>Fleet</th>
<th>Gears</th>
<th>Species</th>
<th>Ecology</th>
<th>Economics</th>
<th>Sociology</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Artisanal: Pirogue</td>
<td>Hook &amp; Line</td>
<td>Pelagic: Dolphin fish</td>
<td>High levels of employment. Approximately 70% of the fisherfolks engaged in this activity</td>
<td>Nutrition and food security</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>Artisanal: Pirogue</td>
<td>Hooks and Line</td>
<td>Pelagic: Wahoo</td>
<td>High levels of employment. Approximately 60% of the</td>
<td>Main source of animal proteins</td>
<td></td>
</tr>
</tbody>
</table>
### Production profile

#### Geographical area

A map of fishing grounds and landing sites of metiers

<table>
<thead>
<tr>
<th></th>
<th>Artisanal: Pirogue</th>
<th>Fish pot</th>
<th>Pelagic: Plumhead</th>
<th>Main source of animal proteins for local population, contributes to food security</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>Artisanal: Pirogue</td>
<td>Hook and Line</td>
<td>Pelagic: Tuna</td>
<td>High levels of employment. Approximately 70% of the fisherfolks engaged in this activity</td>
</tr>
</tbody>
</table>
Case study 1: Pelagic artisanal, hook and line, pirogue

Seasonality and fishing period

The pelagic artisanal catches that employ the trolling method of fishing using the gear hooks and lines and the pirogue vessels occur all year round in Tobago. This particular type of metier occur mainly at landing sites such as Charlotteville (Ch), Studley Park (SP), Roxborough (R) and Castara (Ca).

Table 4: Seasonality of metier 1

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metier occurrence</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
<td>Ch, SP, R, Ca</td>
</tr>
</tbody>
</table>

Volume and values of catches over the last decade

Table 5: Volume and values of catches (lbs) period 2000 - 2007

<table>
<thead>
<tr>
<th>Species</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main species</td>
<td>18284</td>
<td>28880</td>
<td>18535</td>
<td>25173</td>
<td>23672</td>
<td>18965</td>
<td>30198</td>
<td></td>
</tr>
<tr>
<td>Value(E)</td>
<td>31036</td>
<td>49025</td>
<td>31464</td>
<td>42736</td>
<td>40190</td>
<td>32191</td>
<td>51257</td>
<td></td>
</tr>
</tbody>
</table>

Fishing units

The typical fishing unit operating in Tobago waters consists of a pirogue (7 to 9 m), generally powered by outboard gasoline engines of 45 to 75 hp. Theses artisanal vessels can be wooden, fibreglass or fibreglass-coated wooden boats, that operate within a limited
range from the coast mainly during the day (Henry 1997). The targeted species include dolphinfish, tuna, kingfish and wahoo.

**Fish chain profile**

Table 6: Flows of fish from production to processing for metier 1 (live weight equivalent)

<table>
<thead>
<tr>
<th>Production</th>
<th>Processing</th>
<th>Means of Transportation</th>
<th>Final Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hooks and Line (23386 lbs/yr)</td>
<td>Fisherfolks and Local Fishmongers (23386 lbs/yr)</td>
<td>None</td>
<td>National Market (23386 lbs/yr)</td>
</tr>
</tbody>
</table>

**Processing types**

The main types of processing that takes place in Tobago is fresh and gutting which takes place right at the landing sites by the fisher-folks themselves.

Comment [AJ1]: Need information about the numbers of fishermen operating at each landing site.
As the picture above shows, the entire production to consumption chain takes place on the shores where the harvest is landed. Here we have a fisherman performing rudimentary cleaning and gutting. The consumer in the background has made her final purchase.

Employment in Processing

There is very little information available on the economic and social importance of fisheries to rural/coastal communities in Trinidad and Tobago, although many coastal communities depend either entirely or partially on fisheries for their livelihood. There are about 3000 artisanal fishermen, and small-scale fishing accounts for 80% of the national fish production. For many, this is a subsistence activity, very much subject to the cycle of peaks and troughs in abundance of the resource. Fishing communities often depend on alternative sources of income during seasons of low fisheries abundance. Fishing gear is traditional, and boats are seldom outfitted with navigational aids or safety equipment.
Women are only minimally involved in the reef-fishery based industry of Tobago. A field visit, in fact, yielded only one female boat captain. Statistics from the Fisheries Division of Tobago indicate that approximately 5% of the boat-owners are women. However, on the management and monitoring side, approximately 80% of the staff at the Fisheries Division are female.

**Market types**

Fishes catch from metier 1 (pelagic artisanal, hooks and lines, pirogue) are marketed primarily to the domestic market to restaurants, hotels and for auto-consumption. A smaller percentage of the catch is marketed to the national market.

**Means of transportation**

Because fishes caught are processed and sold to final consumers right at the landing sites no transportation is generally involved in this métier.

**Case study 2: Pelagic artisanal, fish potting, pirogue**

**Seasonality and fishing period**

The pelagic artisanal catches that employ fish pots and the pirogue vessels occur at the south western part of Tobago during the months of July to November. These areas include Buccoo Bay (BB), Swallows Bay Pigeon Point (SB) and Mt. Irvine (MI). On the windward side of the island which includes landing sites such as Charlotteville (Ch), Studley Park (SP), Roxborough (R) and Castara
(Ca), this metier is practised during the months of July to December.

Table 7: Seasonality of metier 1

<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metier occurrence location</td>
<td>BB, SB, MI</td>
<td>BB, SB, MI</td>
<td>BB, SB, MI</td>
<td>BB, SB, MI</td>
<td>BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
<td>Ch, SP, R, Ca, BB, SB, MI</td>
</tr>
</tbody>
</table>

Volume and values of catches over the last decade

Presentation of main species characteristics, by-catches and discards of the main and by-catches species.

Table 8: Volume (lbs) and values of catches period 2000 - 2007

<table>
<thead>
<tr>
<th>Species</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main species</td>
<td>2866</td>
<td>9940</td>
<td>8376</td>
<td>6295</td>
<td>9441</td>
<td>4203</td>
<td>6806</td>
<td></td>
</tr>
<tr>
<td>Value (€)</td>
<td>4575</td>
<td>15863</td>
<td>13363</td>
<td>10043</td>
<td>15062</td>
<td>6706</td>
<td>10859</td>
<td></td>
</tr>
</tbody>
</table>

Fishing units

The typical fishing unit operating in Tobago waters consists of a pirogue (7 to 9 m), generally powered by outboard gasoline engines of 45 to 75 hp. Theses artisanal vessels can be wooden, fibreglass or fibreglass-coated wooden boats, that operate within a limited range from the coast mainly during the day (Henry 1997). The targeted species are plumheads, snapper (several varieties), grunts and lobsters.

Fish chain profile
Table 9: Flows of fish from production to processing for metier 2 (live weight equivalent)

<table>
<thead>
<tr>
<th>Production</th>
<th>Processing</th>
<th>Means of Transportation</th>
<th>Final Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishpotting (6846 lbs/yr)</td>
<td>Fisherfolks and Local Fishmongers (6846 lbs/yr)</td>
<td>None</td>
<td>National Market (6846 lbs/yr)</td>
</tr>
</tbody>
</table>

Processing types

The main types of processing that takes place in Tobago is fresh and gutting which takes place right at the landing sites by the fisher-folks themselves.

Employment in Processing

There is very little information available on the economic and social importance of fisheries to rural/ coastal communities in Trinidad and Tobago, although many coastal communities depend either entirely or partially on fisheries for their livelihood. There are about 3000 artisanal fishermen, and small-scale fishing accounts for 80% of the national fish production. For many, this is a subsistence activity, very much subject to the cycle of peaks and troughs in abundance of the resource. Fishing communities often depend on alternative sources of income during seasons of low fisheries abundance. Fishing gear is traditional, and boats are seldom outfitted with navigational aids or safety equipment.
Market types

Fishes catch from metier 2 (pelagic artisanal, hooks and lines, pirogue) are marketed primarily to the domestic market to restaurants, hotels and for auto-consumption. A smaller percentage of the catch is marketed to the national market.

Means of transportation

Because fishes caught are processed and sold to final consumers right at the landing sites no transportation is generally involved in this metier.

The National Context

**Contribution of fishing sector to national economy**

Fishing is the second most important economic activity on the island of Tobago and the highest foreign exchange earner in Tobago second only to Tourism. There are at least 1000 registered fishermen and 700 registered boats with fish landed at 22 landing sites.. Hoetjes et al (undated) noted that fishing is the mainstay of many coastal villages in Tobago and there are 840 registered fishermen in Tobago operating 275 fishing vessels.

The twin islands of Trinidad and Tobago are the most southerly of the chain of Caribbean islands. In the nineteenth and the first half of the twentieth century, the island of Trinidad was a sugar cane oriented economy. However, the discovery of large amounts of crude oil reserves slowly transformed the economy into one that was heavily dependent on oil revenues. The dramatic increase in world oil prices in the 1970's led to what is known as the “oil boom” phase of the country’s economic history - Manwaring and McShine (1989) identify an approximate 1000% increase in oil revenues over
the period 1973 to 1977. Despite ongoing attempts to reduce the dependence of the economy on the volatile oil market and stock prices, Trinidad and Tobago still remains a primarily oil-driven economy.

Tobago is the smaller of the two main islands making up the Republic of Trinidad and Tobago. The island lies slightly north of Trinidad and is world renowned for its beautiful coral communities. While Trinidad has successful energy and manufacturing sectors, Tobago's population of approximately 540,84 (2000 estimates) depend on other forms of economic activity for livelihood. Primary among these activities are tourism and fisheries, with tourism being the more significant of the two.

Resulting from the Archipelagic Waters and Exclusive Economic Zone Act of 1986, Trinidad and Tobago (theoretically) exercises control over its archipelagic waters, territorial sea and an Exclusive Economic Zone that is estimated to be some fifteen times its land space. Because Trinidad and Tobago are continental islands, these waters are heavily influenced by discharges from the major river systems of northeast South America such as the Orinoco and Amazon Rivers. The added influence of saline oceanic influences from the North and South Equatorial Currents leads to a mixed maritime environment and a diversity and seasonality of the marine fishery resources available for harvesting (Fisheries Division 1994). The primary productivity of these waters is generally higher than that of other, oceanic Caribbean islands.

The marine fisheries sector of Trinidad and Tobago, although relatively small in comparison to the other sectors of the economy, makes a significant contribution to the national economy in terms of employment, nutrition, foreign exchange in the case of some of the exported species, and in general to the stability it gives to the rural
communities of the islands (Fisheries Division 1994). The contribution of the fisheries sector to the Gross Domestic Product (GDP) is small, and is estimated to be about 0.3%, representing about 13% of the total contribution of agriculture to GDP, (FAO, 2000). It is estimated that over 10,000 individuals may be employed directly by this sector, with another 50,000 or so engaged in ancillary and support services (reference?). It is estimated that the industry employs approximately 10% of the agriculture labour force (reference).

Trinidad’s fisheries are mainly to be found in the Gulf of Paria, a body of water to the west of the island that is shared with Venezuela and is heavily influenced by the waters of the Orinoco Delta. Tobago’s fisheries are characteristically reef-associated due to the presence of significant coral reefs in the surrounding waters.

It is estimated that 80 percent of the annual national production of marine species is effected by the artisanal inshore fleet. According to the latest census (1998), there were a total of 1,471 fishing vessels (1,216 in Trinidad and 255 in Tobago). Of these, 1,326 were less than 9 m LOA, 84 between 9 and 12 m, 35 between 12 and 15 m, and 26 over 15 m LOA. Vessels below 9 to 12 m were generally powered by outboard gasoline engines of 45 to 75 hp, with some using engines of up to 125 - 150 hp. Larger vessels all have inboard diesel engines of between 65 and 365 hp. The gears used are gillnets and line fishing. Vessels operate from more than one hundred landing points throughout the islands of Trinidad and Tobago, some of which are provided with landing and storage facilities, ice and cold storage (source: http://www.fao.org/fi/fcp/en/TTO/profile.htm (2006)

The fisheries of Trinidad and Tobago are similar to other tropical fisheries in that they are not only multi-species but also multi-gear.
The industry has traditionally been an inshore and artisanal one - according to the Fisheries Division, there are 1733 pirogues that comprise the artisanal fishery, and 11 longliners, 41 multi gear boats and 34 industrial and semi-industrial trawlers that constitute the fishery, as well as 300 vessels involved in the recreational/part time fishery (Fisheries Division 1997). The artisanal vessels can be wooden, fibreglass or fibreglass-coated wooden boats, 7-9 metres long with outboard engines that operate within a limited range from the coast mainly during the day (Henry 1997). The multi purpose vessels, longliners and industrial type boats are generally 13 metres or more in length, equipped with technical and mechanical aids and able to spend at least one week at sea. Artisanal fishing methods include surface and bottom set gill netting, trolling, live bait fishing, trawling, banking, bottom set long lining, fish potting, Italian seining and beach seining. The industrial fishery uses methods such as surface and bottom set long lining, live bait fishing, trolling, trawling and fish potting. The fishing methods of the recreational fishery include trolling, live bait fishing, banking, harpooning and spear fishing.

The increasingly intense exploitation of the marine fishery resources of the islands and the increasing pressure on the coastal and marine environment which supports all economic activity in the economy continues to lead to the decline of marine fishery resources.

There is very little information available on the economic and social importance of fisheries to rural/ coastal communities in Trinidad and Tobago, although many coastal communities depend either entirely or partially on fisheries for their livelihood. There are about 3000 artisanal fishermen, and small-scale fishing accounts for 80% of the national fish production. For many, this is a subsistence activity,
very much subject to the cycle of peaks and troughs in abundance of the resource. Fishing communities often depend on alternative sources of income during seasons of low fisheries abundance. Fishing gear is traditional, and boats are seldom outfitted with navigational aids or safety equipment.

The waters surrounding Tobago are less influenced by the Orinoco run-off and therefore have higher levels of salinity. The result is that Tobago has thriving marine communities and reefs, famed for dramatic scenery, large fish, and manta rays. Several beautiful coral reefs occur around Tobago of which the best known is Buccoo Reef, (Laydoo, 1991). Apart from Buccoo Reef, coral reefs can be found at Speyside, Man-of-War Bay, Culloden Bay, Arnos Vale Bay, Milford Bay, La Guira Bay and Stone Haven Bay, (ibid).

**National management framework**

The reef-fisheries of Tobago are largely unmanaged.

**Fishing subsidies**

The fisherfolks of Tobago are granted subsidies by the government of Trinidad and Tobago. These subsidies take the form of the following:

VAT exemption on equipment, engine parts, new fishing vessels of fisheries/duty

**Subsidy on vehicle to be used in commercial fishing**

Tobago fishermen receive subsidies on gasolene and oil used in fishing vessels.

**Costs of management**
Running and investment costs of Monitoring and surveillance, research, administration, Professional organisations, etc.

**Trade measures**

The reef fisheries of Tobago are not exported, but are exclusively sold to the domestic market. The non reef-based fisheries of Tobago have export markets, as do the highly productive Gulf of Paria fisheries of Trinidad.

**Fiscal measures**

Major fiscal measures, incentives etc...

**Fishing agreements**

Two main agreements exist with geographical neighbours. None of these pertain to the reef based fisheries of Tobago.

- An agreement between the Government of the Republic of Trinidad and Tobago and the Government of the Republic of Venezuela for Cooperation in the Fisheries Sector
- A Bilateral fishing agreement with the Government of Barbados

**Description of Major fishing agreements**

The agreement between Trinidad and Tobago and Venezuela deal with the waters in between the south coast of Trinidad and the north coast of Venezuela, and the waters of the Gulf of Paria. The agreement with Barbados relates to the flying fish resources which both Tobago and Barbados share.