Safety and survival of fishermen and small boat operators in Trinidad and Tobago

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THE
SAFETY
AND
SURVIVAL
OF
FISHERMEN
AND
PLEASURE CRAFT OPERATORS
IN
TRINIDAD AND TOBAGO

Selwyn E Brooks
Trinidad and Tobago
WORLD MARITIME UNIVERSITY
MALMO, SWEDEN

THE SAFETY AND SURVIVAL OF FISHERMEN AND
SMALL BOAT OPERATORS IN
TRINIDAD AND TOBAGO

by

SELWYN E BROOKS

A paper submitted to the Faculty of the WORLD MARITIME UNIVERSITY, in partial satisfaction of the require-
ments for the award of a

MASTER OF SCIENCE DEGREE

in

MARITIME EDUCATION AND TRAINING (NAUTICAL)

The contents of this paper reflect my own personal view and are not necessarily endorsed by the UNIVERSITY.

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Date: 2-12-88

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TRINIDAD AND TOBAGO
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My gratitude to the Chief of Defence Staff, Commodore Mervyn Williams, and Miss Ina Nicholson, Shipping Advisor in the Ministry of Works and Infrastructure, both of whom were responsible for initiating my interest in my studies at the World Maritime University. To the Friends of the World Maritime University who financed my Fellowship during the first year, my sincerest gratitude. I also wish to thank Commander Richard Kelshall, Commanding Officer of the Trinidad and Tobago Coast Guard of which I am a Retired Officer, for allowing me access to the Search and Rescue files and other information of the Unit.

The Director of Fisheries, Mr Mervyn La Croix who assisted me in compiling my information by giving me access to the relevant files, and providing me with the benefits of his personal experiences.

I am also indebted to my course professor, Professor Gunther Zade, and my Assessor Mr. Hans Van Walen under whose guidance I was able to complete a successful two years of study at the University. To my co-assessor, Mr Carlisle Jordan, himself a Graduate of the World Maritime University, a special debt of gratitude for his encouragement during my period of study.

Finally no small measure of success can be attributed to the confidence, faith and patience exhibited by my wife Daphne, my children, my parents and my close friends, for the encouragement given by them when it was needed most.
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ABSTRACT

The twin island State of Trinidad and Tobago is not considered to be among the developed maritime nations. However, through its dependence on the sea for a sizeable portion of its food supply, and its involvement in the field of shipping, it has been closely associated with maritime matters, not the least of which is fisheries.

Consequently the fisherman, his work ethics, and social influence, his safety and survival, has become an integral part of the National commitment in the consideration of matters relating to the maritime environment.

The unquestionable importance of fisheries to the national economy and health requirements places an onus on the relevant authority to secure the welfare of the fisherman, both professional and part time, and to ensure that their contributions are acknowledged and manifested by the provision of all avenues which will facilitate the efficient and safe operation of their trade.

This thesis addresses matters of safety, and proposes recommendations for fishing boats of fifteen metres and under, ships and boats which are under 25GRT, sport fishing boats, protection and surveillance vessels and pleasure craft.

It also makes mention of the British Merchant Shipping Act of 1894 section 413, and Section 81 of the Merchant Shipping Act of 1906 by which Act vessels owned and operated under the National flag were governed until
recently. It examines the Trinidad and Tobago Shipping Act 24 of 1987 in the establishment of national safety standards and legislation. Reference is also being made to the Torremolinos Convention of 1977 as the international guideline for the setting of safety standards for the fishing industry being borne in mind however, that it is yet to receive final ratification. This thesis also seeks to establish guidelines and provide elements for a safer environment in which the fisherman and small boat operator can function and operate. These will be founded upon the formulation of adequate, efficient and relevant training programmes, while at the same time developing a level and standard of awareness among the recipients.

In more specific terms, this thesis approaches the subject through:
1. Examination and analysis of casualty statistics as a means of identifying the needs which must receive priority in the areas of safety and survival of small craft operators.

2. Identification of the types of accidents resulting from negligence or inadequate knowledge, with suggestions for remedial action.

3. An examination of the infrastructure and provisions for the training of fishermen in particular and small boat owners generally with respect to the above mentioned, with recommendations for improvement.

4. An examination of the relevant Maritime Acts, laws and regulations (if any) and the extent to which they...
are applicable and enforceable.

5. An insight into the effectiveness and efficiency of the information services and feedback systems associated with the Search and Rescue Services in terms of responses to emergencies and operational conditions with possible improvements.
"Nothing is more dangerous than for a seaman to be grudging in taking precautions lest they turn out to have been unnecessary. Safety at sea for a thousand years has depended on exactly the opposite philosophy."

(Fleet Admiral Chester W. Nimitz, USN).

This quotation is no less applicable to the fisherman or pleasure craft operator than it is to the professional sailor. As a matter of fact, one would be inclined to view these words as being much more relevant to the untrained seafarer to whom the sea is a means of livelihood or pleasure, since its potential as a destructive agent is relegated to the background in preference to the activity at hand.

The loss of a single life through carelessness or a lack of adequate training is sufficient to justify renewed efforts geared towards preventing a re-occurrence. At present many small craft operators including fishermen and pleasure boat operators are ignorant of and show a blatant disregard for the application of elementary safety and collision regulations. While no technological advances can fully eliminate the forces of the sea and other natural dangers which persons have to face, nor is it possible to eliminate the human error or make the tools of the seafarer's trade completely accident proof, preventative education can reduce accidents to a minimum. The proper use of safety gear may not always prevent accidents, but it usually reduces the seriousness whenever they occur.
Statistics, as provided in Table 1. page 5, indicate however that this factor, while not sufficient to be classified as alarming, is at such a level as to necessitate a rethinking of both methods and type of instruction, relevance of existing rules and regulations concerning the safety of life at sea, and the extent to which they are being implemented. Like-wise the annual increase in the number of maritime incidents involving small boats must be similarly treated.

Seafaring has always been a hazardous occupation and accepted as such by all who choose to face the challenge. History shows that when in trouble at sea some perish under conditions far less severe than those under which others better prepared, better trained, better equipped or psychologically stronger have survived. The object of this thesis is to provide the elements for a safer environment in which the fisherman and small boat operator can function, as well as to provide a foundation upon which adequate, efficient and relevant training can be formulated. Through this, it is envisaged that a standard of awareness will be reached which will ensure that safety standards are at a maximum with improved chances of survival when accidents occur.

Certainly the psychological effect of over confidence and the social demands on one section of the community whose members have not been over-endowed with high intellectual achievement or much financial reserve and another section whose financial status provides a misguided concept of protection from the elements of
the sea has created a scenario which has led to taking risks, neglecting warnings, considering the time spent in being trained as representing a loss of earnings and a general apathy towards basic safety requirements.

Bearing this in mind, the Author seeks to indicate dangers which can result from neglect by the appropriate authority of the importance of clear-cut definitive policies associated with safety at sea for these small craft, and the need for alertness and unceasing vigilance by small craft operators when venturing away from land.
DEFINITIONS

State: means the Republic of Trinidad and Tobago.
Administration: means the Government of the Republic of Trinidad and Tobago.

Cooperative Society: means a society the primary object of which is to promote the economic welfare of its members.

Credit Union: a society which has as its objectives the promotion of thrift and the creation of a source of credit for its members.

Fishing boat: a boat which is required to be registered under the Fisheries Ordinance Ch.25 No.9 and which is to be used solely for the purpose of catching fish.

Operator: includes any person actually operating a pleasure boat or any person in charge of a pleasure boat for the purpose of operating it.

Passenger: means any person carried on a pleasure boat or any vessel used for transportation with or without any object of profit or remuneration.

Pleasure Boat: any vessel whether propelled by oars, wind or any other means whatever, that is used exclusively for pleasure and carries passengers only, but does not include
(a) motor launches to which the Motor launches Ordinance applies,
(b) Fishing boats
(c) vessels under 16 feet (4.8 metres) that are not mechanically propelled.
Small Boat: for the purpose of this thesis, small boat means any vessel whether propelled by oars, wind or any other means which is not more than 48 feet (15 metres) in length.
LIST OF TABLES

The tables used throughout this thesis refer only to locally registered craft of 40 feet (12 metres) or less, and do not include foreign registered vessels. The statistics have been compiled from the Search and Rescue (SAR) records of the Trinidad and Tobago Coast Guard over the period 1982 to 1987. A copy of the file on which such information is recorded is given under appendix H.

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CHAPTER 1

THE MARITIME GEOGRAPHY OF TRINIDAD AND TOBAGO

1.1 Location.

Trinidad and Tobago are the most southerly of a chain of Caribbean islands extending from Florida in the United States to Venezuela in South America. Trinidad, the larger of the two lies between 10.03 and 10.50 degrees North Latitude, and 60.55 and 61.57 degrees West Longitude, approximately ten kilometers off the coast of the Republic of Venezuela at its northwesterly tip, and five kilometres at its south-westerly tip. It encloses with the Venezuelan mainland a body of water called the Gulf of Paria which is fed through a number of narrow passages called the Dragon’s Mouth in the North and the Serpent’s mouth in the south.

Tobago lies thirty five kilometres north-east of Trinidad between 11.27 and 23.00 degrees North Latitude and 60.30 and 60.52 degrees West Longitude. (Appendix A overleaf.)

Both islands are bordered by waters of the Caribbean sea and the Atlantic ocean. Currents originating off the African and Brazilian coasts are responsible for the transport of nutrients which in turn account for rich fishing grounds that exists off the islands’ coasts. The major ocean current affecting the islands is the Guyana current. It has its origin in the cold Benguela current which flows north-wards along the West African coast and swings in a westerly direction as it approaches the Equator. This west-ward moving current is referred to as the South Equatorial current.
As the mass of water approaches South America, it divides into the Brazil current flowing South and the Guyana current which diverts large amounts of water discharged by the Amazon river north-wards to the Eastern Caribbean. Another discharge from the Orinoco river is diverted directly towards Trinidad. Its western extremity flows through the Columbus Channel, entering the Gulf of Paria through the Serpent’s mouth, while the rest flows north-wards along the East coast. Part of the north-ward current flows through the channel separating Trinidad from Tobago (the Tobago Sound) while the rest continues north-wards along the east coast of Tobago. The stream entering the Tobago Sound flows west-wards along the north coast of Trinidad and also in a general northwesterly direction into the Caribbean sea.

Within the Gulf of Paria water flows in through the Serpent’s mouth. However, there is a large clock-wise eddy near the middle of the Gulf due to the in-flow through the Dragon’s mouth. Most of the water which enters into the Gulf eventually flows out through the channels of the Dragon’s mouth into the Caribbean sea, an important factor to be considered in mounting Search and Rescue operations in that area. Equally important are the channel (Boca) currents which may attain extremely high velocities (as high as 175cm/sec) and the incidence at definite periods of the year (from July to November) of treacherous and turbulent conditions known locally as ‘Remous’. This is caused by the collision of masses of a north-flowing stream and a southward flow of water from the Caribbean sea. (Appendix B overleaf.) (Ocean currents around Trinidad and Tobago—Institute of Marine Affairs publication).
FIG. 1
CURRENT PATTERNS OF THE ATLANTIC

FIG. 2
GENERAL CIRCULATION PATTERNS AROUND TRINIDAD
1.2 Meteorological Conditions affecting the Islands

The meteorological conditions which affect the coastal waters of the twin islands are important in determining the feasibility of venturing to sea at certain periods of the year, particularly the hurricane season which extends officially from June 1 to November 30.

Trinidad and Tobago experiences characteristically Tropical weather. Meteorological data indicate that conditions around the islands are relatively constant for definite periods of the year. Unusual weather may occur in January, April and/or May with thunder showers creating locally rough seas in nearby waters. Such changes may be anticipated by weather forecasters with a safe degree of accuracy.

The two islands lie on the Southern extremes of the Atlantic Tropical Cyclone Tracks. (Fig 3 over-leaf) Tobago in particular is much more vulnerable even though it lies only 35 kilometres to the North East. Of 25 cyclones, (1872 to 1974) passing within 100 kilometres of the area bounded by 10.00 to 12.00 degrees North Latitude and 60.00 to 62.00 degrees West Longitude, 24 of these passed North of Tobago sufficiently close to be perceptible in the island. (Original source...Tropical Meteorology. Carlson and Lee)

Extracted from Tropical Cyclones affecting Trinidad and Tobago, (1725-1986) a publication of the meteorological services.

Beset by the constancy of the north-east trades the east coast of the islands experiences rough seas and high velocity winds for most of the year. The seas
Figure 3.—Computer plot showing the tracks of the 725 known Atlantic tropical cyclones reaching at least tropical storm intensity (see section 4.1) over the 50-year period 1899 through 1948.

Note arrow showing the position of Trinidad and Tobago at the Southern extremes of the tracks.
along the north coast of Trinidad show slight seasonal variation in wave height during the dry season, but maintain a constancy of current velocity and directional flow throughout the year. This is a critical factor in SAR operations and the determination of search patterns which would ensure successful rescue missions.

The Gulf of Paria experiences relatively calm seas. Occasionally a wind change in direction, which now approaches the coast from the south-west brings with it abnormally rough seas, although for short periods which last from two to six hours. Mariners operating around the islands' coasts often experience rain squalls, intense but of short duration (up to half an hour), especially during the months of the rainy season (from July to December.)

It is these irregular occurrences which offer the greatest threat to small boats at sea.

1.3 The relationship between frequency of incidents and the operational zones of small craft.

The prevailing conditions of sea state, visibility, wave height, wind and current which exist on each coast of Trinidad indicate that the most dangerous areas for the small boat operator are the North and East coasts of the island. From these coasts, approximately 605 fishing boats between 14 and 36 feet (4.2 to 11 m.) operate. (Operational vessels recorded by Fisheries Department at 19-5-87).

Despite its small size of 116 square miles (300 sq. Km) in area, sea conditions around the coast of Tobago vary appreciably. The north-western and south-western shores
experience much calmer conditions than those of the wind-swept eastern Atlantic. Approximately 475 vessels operate from these shores. (1987 Fisheries division statistics).

It is to be expected that weather-caused incidents would be more prevalent on those coasts where conditions are most severe. On the contrary, statistical data indicate that the subjects of most search and rescue operations occur in the Gulf of Paria, where approximately 1432 fishing boats and 216 pleasure craft operate. There are 227 fishing vessels on the South coast.

It may be argued that the probability factor of accident occurrence increases in proportion to the number of boats putting out to sea in any area, and that 1648 (1432+216) vessels in the Gulf is balanced against 605 of the north and east coasts, 227 from the south and 475 from Tobago. But one has to bear in mind that due to easy access to the rich fishing grounds of the North coast of Trinidad, it is not infrequent that the sporting fisherman leave the calmer waters of the Gulf for this area.

In spite of this, the annual percentage of incidents in the Gulf remains higher than that in any other area. (see Table overleaf)
Table 1A

No. of Reported Search and Rescue cases in Trinidad and Tobago according to the fishing areas.
Local craft 12 metres and under.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of reports</th>
<th>FISHING AREAS</th>
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<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>North Coast</td>
<td>South Coast</td>
<td>East Coast</td>
<td>Gulf of Paria</td>
<td>Tobago</td>
</tr>
<tr>
<td>1982</td>
<td>59</td>
<td>23</td>
<td>2</td>
<td>1</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td>1984</td>
<td>61</td>
<td>25</td>
<td>6</td>
<td>nil</td>
<td>26</td>
<td>4</td>
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<tr>
<td>1985</td>
<td>86</td>
<td>37</td>
<td>9</td>
<td>5</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>1986</td>
<td>101</td>
<td>26</td>
<td>3</td>
<td>2</td>
<td>62</td>
<td>8</td>
</tr>
<tr>
<td>1987</td>
<td>128</td>
<td>53</td>
<td>15</td>
<td>2</td>
<td>56</td>
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Table 1B.

ANNUAL PERCENTAGE

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of reports</th>
<th>FISHING AREAS</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>North Coast</td>
<td>South Coast</td>
<td>East Coast</td>
<td>Gulf of Paria</td>
<td>Tobago</td>
</tr>
<tr>
<td>1982</td>
<td>59</td>
<td>39.6</td>
<td>3.4</td>
<td>1.7</td>
<td>48.3</td>
<td>6.9</td>
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<td>1984</td>
<td>61</td>
<td>43.8</td>
<td>10.5</td>
<td>nil</td>
<td>45.6</td>
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<tr>
<td>1985</td>
<td>86</td>
<td>40.6</td>
<td>9.8</td>
<td>5.4</td>
<td>35.1</td>
<td>3.2</td>
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<td>1986</td>
<td>101</td>
<td>26.2</td>
<td>3.0</td>
<td>2.0</td>
<td>62.6</td>
<td>8.1</td>
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<td>1987</td>
<td>128</td>
<td>42.0</td>
<td>11.9</td>
<td>1.6</td>
<td>44.4</td>
<td>1.6</td>
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The fact that the average annual rate of incidents at sea over the six years (1982 to 1987) excluding 1983 (statistics unavailable) is 87 suggests that a closer look must be taken at the infrastructure for, and the methodology of training small boat operators in this important aspect of their trade or pastime.
CHAPTER 2

AN APPRAISAL OF THE INFLUENCES OF ECONOMIC AND SOCIAL FACTORS ON THE ATTITUDES OF THE FISHERMAN AND SMALL BOAT OPERATOR TOWARD SAFETY AT SEA.

THE FISHERMAN

2.1 As mentioned earlier the fishing industry has had a major input into the economy of the country in so far as it contributes to the production of food, employment and investment. Table 2 below provides some evidence of the impact of the industry in terms of quantity and dollars. (Trinidad and Tobago currency)

Table 2: Fish Landing and Value. 1982-1986

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity/Kg</th>
<th>Value/TT dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>4,956,319</td>
<td>31,235,568</td>
</tr>
<tr>
<td>1983</td>
<td>4,431,730</td>
<td>28,178,511</td>
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<tr>
<td>1984</td>
<td>3,803,871</td>
<td>25,382,190</td>
</tr>
<tr>
<td>1985</td>
<td>3,618,484</td>
<td>20,656,233</td>
</tr>
<tr>
<td>1986</td>
<td>4,257,897</td>
<td>21,350,770</td>
</tr>
</tbody>
</table>

Source: Fisheries Division Statistics & Economics (1987)

Even in these circumstances, the industry has come to be taken for granted by the population as a whole, and the daily forays of hundreds of fishermen leaving the shores in the early hours of the morning to return late in the evening have been accepted as a necessary ritual
by most.

Nutritional requirements have indicated the need for continued provision of a commodity fish, which medical science has advised is necessary for our healthy existence. Traditionally, the fisherman has used the pirogue or the open boat to make his catch.

Traditionally too, he is a product of the less privileged class of the society, living in a closed community. He has, in the past, suffered from a lack of proper administrative attention, a lack of appreciation for his contribution to the society, and consequently a lack of understanding of the important role which he plays. Left to himself to carry on as best as he could, he has developed his own code of conduct and operation, and an ability to survive through natural intuition and experience. Through these efforts he has provided for himself and his dependents a means of livelihood, which to some would seem pleasurable but which in fact is a daily struggle with the elements of Nature's forces.

It is natural that under such circumstances, the fisherman would show resistance to any laws which would seemingly impair the operation of his trade, but which in fact are intended to provide for his safety. Furthermore, his relative success without any formal training has created for himself and others the resistance to accepting modernised methods involving his trade, for which he would need to discard many of his old customs and habits.

The psychology of having to sit in the classroom and listen to lecturers some of whom may not ever have gone to sea in an open boat for anything other than a ple
surable ride, does not appeal to him. On the other hand, there is evidence that there is a change in the way of thinking and attitude towards training, and the recent response augers well for the future.

There are few occupations which present as great a risk to life and limb of an individual than does that of the fisherman. For reasons which have been mentioned before (economic and nutritional) and in spite of his inhibitions and biases, he must be afforded by the State every opportunity of enhancing the degree of safety in the environment in which he operates daily. Because of his inherent mistrust for any thing which deviates from his traditional and inherited habits of years, training efforts must be geared towards information services, which would first serve as a stimulus to attract his attention and then his time. He must be made to understand that the time spent in the classroom learning about the safety aspects of life at sea is not wasted, but may one day be the reason for his continued existence and his family's comfort. The use of the electronic media especially the television to present the relevant lectures on the same principle as that employed by "Open Universities" must be explored. Most of all, he must be so indoctrinated that such efforts become automatic when the need arises, whether it is putting out to sea or awaiting rescue in a drifting boat.

The degree of difficulty to accomplish such an assignment successfully must not be underestimated. There must be the psychological approach, born out of the necessity in creating interest. The Training Institute and Fisheries agencies must be prepared to go to the fisherman where conditions such as distance make it inconvenient
for him to attend institutions. Where this is already being done with unsatisfactory results, then there is the need for a rethinking of the procedure. There is a certain degree of social obligation placed on the Administration to ensure that these functions are carried out efficiently within the limits of its powers. The social obligation arises in part out of the necessity to provide his family with the assurance that it has exercised its jurisdiction in maintaining control over the casualties which have occurred at sea. This can be achieved through appropriate laws, supervision and advice with respect to what he should and should not do while carrying out his trade. Similarly it must provide proper and efficient SAR units with the most modern techniques through training to instill that feeling of confidence to the social fabric and more closer home, to the fisherman's family in the knowledge that when he goes out to sea, his chances of returning to his personal obligations are so much more increased.

While some may undertake this out of love for the profession, and an in-born instinct to brave the elements, a large proportion do so out of necessity and would have preferred to be in a much "safer" occupation. It is hardly possible to identify one group as clearly distinct from the other but the effect on the latter group would imply providing them with a safer medium through training and/or the use of proper equipment, and assurance of their families' social welfare through appropriate and vibrant cooperatives, credit unions and insurance schemes.
SAFETY MEASURES SPECIFIC TO THE FISHERMAN

1. Fishing must never be conducted in channels and narrow waterways traversed by large vessels especially at night. Similarly anchoring must be avoided in such waterways.

2. Studies of the causes of accidents on board fishing vessels have shown that the misuse of alcohol is often a contributory factor (c.f. Code of safety and health practice.....Part A. general provisions para.1.3.9 Quote, "An excessive intake of alcohol by a fisherman on board is a major danger to himself and others. It must therefore be discouraged." Unquote.

3. When fishing at night adequate lights must provide safety by being clearly visible.

4. Never put to sea alone. Statistics drawn from the Coast Guard files show that during the years 1982 to 1987, of 435 cases of search and rescue, 59 involved persons who had gone to sea alone.

Table 3. Cases of Rescue of distress Craft with one person on board. From Coast Guard SAR files, Trinidad and Tobago 1982-1987 (1983 statistics unavailable)

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of reports</th>
<th>Rescued boats with single person on board</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>59</td>
<td>10</td>
</tr>
<tr>
<td>1984</td>
<td>61</td>
<td>7</td>
</tr>
<tr>
<td>1985</td>
<td>86</td>
<td>10 (man aged 53 was found dead drifting in his pirogue.)</td>
</tr>
<tr>
<td>1986</td>
<td>101</td>
<td>10</td>
</tr>
<tr>
<td>1987</td>
<td>128</td>
<td>22</td>
</tr>
</tbody>
</table>
5. In their endeavour to improve on their financial returns, fishermen often alter the load capacity without due regard to an increase in weight and a consequent increase in the fuel consumption. If this is not taken into account, they may find themselves stranded for lack of fuel and develop into search and rescue subjects. The control of all the activities of the professional fisherman lies under the jurisdiction of the Ministry of Fisheries. It provides guide lines for safety at sea. Below is a representation of one such set of guidelines.

Fisheries Division
Some Guidelines to Safety at Sea.
Safety on the water
The following items should always be carried before setting out at sea.
1. Life jackets/ vests.
2. Life rings/ buoys.
3. Pumps and/or bailors.
4. Fire extinguishers.
5. Flashlight/ lanterns.
6. A small sharp axe or knife.
7. Tools and spare parts.
8. First aid kit.
10. Oars.
11. Anchor.

Safety reporting
It is wise to report to someone your estimated time departure before setting out to sea and estimated time of arrival at all times. It is also a requirement by law that the vessel's registration number and/or name be prominently displayed on the bow. (preferably painted on
a bright orange background.)

**Safety Guides**

Here are a few basic guides which if followed should result in safe boating at all times.

1. Carry proper equipment and know how to use it.
2. Maintain your boat and equipment in good condition.
3. Always be alert while at sea.
4. Operate your vessel with care, common sense and courtesy.
5. Reduce speed in harbours and anchorages.
6. Do not overload the boat.
7. Inspect your boat, engine and gear regularly.
9. Know and exercise the rules of the road.

**Fire Fighting**

All fires consist of three basic elements, air, fuel and heat. The removal of any of these will destroy the fire. The following are various categories of fire and the manner in which they should be dealt with:

a. Fire in ordinary combustible materials e.g. wood, paper. Extinguished by water or solutions with large amounts of water.

b. Oil or petroleum fires. Smothering with foam extinguishers. Water will only spread this type of fire.

c. Electrical fires. Use carbon dioxide or dry powder extinguishers. Water used on electrical fires could result in severe electrical shock.

Fisheries Division
2.2 **THE PLEASURE BOAT OPERATOR AND THE NON-PROFESSIONAL SEAFARER.**

One must distinguish between the individual who goes to sea as a leisurely past-time, either transiting from one point to the next, or indulging in fishing activities for the same reason, and the operator of the pleasure craft who, under legal obligation, provides a means of transportation for those who wish to cross the sea. Because of his commitment to the safe carriage of passengers, such a person is morally bound to acquaint himself with, and to provide on board all necessary life saving equipment. Unlike modes of land transport, he literally possesses the lives of those on board in his hands, most of whom would become a liability in times of stress.

Bearing this in mind, he is under obligation to avail himself of every opportunity which will expand his knowledge and expertise in this field. Where training opportunities and facilities are provided, this same obligation should be the impetus which would propel him to become a professional at his trade.

On the other hand, it is insufficient for any responsible and concerned Administration to rely on moral commitment of individuals and self-imposed obligations of an already delinquent society in so far as it may affect the lives of innocent persons. Consequently, it is the responsibility of the relevant Authority, to protect people from themselves, and to safe-guard the lives of others by providing the means of control without prejudice or favour, based purely on what would be the most effective means of ensuring safety and reducing accidents and casualties.
The fact that this activity represents not only a means of livelihood but also a public service, should make the laws under which he operates all the more mandatory.

The Non-professional seafarer

The person who goes to sea for leisure, whether on a fishing expedition or otherwise presents a different type of problem. Because there is little urgency in his doing so, he generally attempts to choose the best weather and sea conditions, and his voyages are usually expected to be short. He tends to relax his vigilance with regard to the forces which may be unleashed upon his craft with very little warning. His false sense of safety and security may result in his neglect to service his safety equipment and he even commits the unpardonable act of not having it on board because "it has never been used before." Mentally and physically he is therefore ill-prepared to meet any emergencies. Operating his craft under ideal conditions, and without incident, may also have robbed him of that experience in encountering and dealing with unusual and possibly dangerous sea conditions (Chapter 3, para.3.2), of assessing his reactions under stress, and the appreciation of having his safety apparatus on board. Furthermore, in spite of attempts locally to encourage basic maritime training in the form of short courses, the response has been disappointing. Statistics of reported incidents which are given in Table 4 over-leaf indicate the result of this deficiency.
Table 4. Types of craft involved in SAR reports. Trinidad and Tobago (1982-1987)

<table>
<thead>
<tr>
<th>Year</th>
<th>No of reports</th>
<th>Pirole</th>
<th>Cabin cruiser</th>
<th>Yacht</th>
<th>Speed boat</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>59</td>
<td>51</td>
<td>nil</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>61</td>
<td>47</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>86</td>
<td>66</td>
<td>nil</td>
<td>11</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>101</td>
<td>78</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>raft..1 canoe..1 boston whaler..1</td>
</tr>
<tr>
<td>1987</td>
<td>128</td>
<td>104</td>
<td>4</td>
<td>8</td>
<td>11</td>
<td>kayak..1</td>
</tr>
</tbody>
</table>

The extension of pleasure boat activity in Trinidad and Tobago includes an annual feature called the Great Race which takes place along the choppy waters of the North coast of Trinidad to Tobago, a distance of approximately 73 nautical miles. Boats vary in length from between 18 feet (5.4 metres) to 35 feet (10.6 metres), and attain speeds of up to 80 miles per hour. The sea and weather conditions under which this race takes place demand a high degree of caution, much greater than would be necessary for craft operating at lower speeds and in otherwise calm waters.

Bearing in mind that there is no legislation which governs the movement of these craft under competition, it remains the onus of the Power boats association to ensure that those who participate do so under the obligation to obey specified rules of safety. Such rules are
in part listed below: (From the Great Race publication '84)

1. The minimum age for drivers shall be 17 years.
2. Life jackets and helmets of an approved type must be worn by each occupant of the boat.
There must be on board,
a. Hand bilge pump or bailer.
b. Towing cleat, sampson post or bow ring.
c. Anchor and grapnel and 150 feet of rope.
d. Identification number on port and starboard sides of boat.
e. Flash light, compass, and tool kit.
f. One gallon of drinking water.
g. Adequate fuel.
h. First aid kit.
i. Fire extinguisher carbon dioxide or dry powder type.
j. Radio communication.
k. It is mandatory that every boat render assistance to any boat or person in peril.

It is to the credit of both the association, the surveillance teams and the participants that no deaths have occurred to date after nineteen years of activity. However, as would be expected, there have been various mishaps ranging from overturned boats, sinkings and members of crews being thrown overboard at high speed and rough seas, to being lost at sea for several days. (Appendix E...Lost at sea.)

The underlying factor here is that lives have been saved because safety gear has been worn and survival precautions taken.
CHAPTER 3

ACCIDENTS AND CASUALTIES...TYPES, CAUSES, and INVESTIGATION of.... SURVIVAL TECHNIQUES.

3.1 Types of accidents.

The seafarer who pays any attention to the axiom "to be forewarned is to be fore-armed," would recognise that part of the training process which gives him an insight into those dangers at sea of which he may find himself a victim. Such knowledge, if utilised correctly, will always leave him in a state of preparedness to meet all but the worst of them. Enumerated below are some of the more common types although the list is not an exhaustive one:

1. Capsizing.
2. Falling over-board.
3. Collision.
4. Explosion.
5. Fire.
6. Stranding or going aground.
7. Shipping water with possible sinking.

Capsizing

This is caused by insufficient stability. It is therefore necessary to ensure that stability and freeboard are suitable for all anticipated conditions of load, passenger numbers and possible damage. In addition capsizing results from unbalanced loading of gear, undue movement of people on board and lack of attention to weather changes. Sailing boats "capsize" when wind or sea knocks the boat on its beam ends with the mast horizontal or below the horizontal. High-speed planing boats are liable to somersault due to the air pressure on the
underside of the hull.

Operating precautions

Establish the best means of righting. If the boat cannot be righted, remain with it and await rescue. Do not attempt to swim to a safer refuge unless the distance is short, and well within the competence of the swimmer.

Falling Overboard

In pleasure craft and fishing boats, there is always the danger of falling over board. For safety a life jacket should always be worn especially by a non-swimmer who is a liability while at sea. If thrown over board, there should be no unnecessary swimming unless a refuge is near at hand. This increases the loss of body heat and brings about exhaustion. However, it is in the interest of every seafarer that he should be able to swim. This is one of the most important requirements for anyone who goes to sea, especially in small boats, and that the distance a man should be able to cover be not less than 300 metres.

Collisions

Collisions occur when visibility is poor, tracks converge, traffic is dense and the water restricted. Among small craft, collisions are very rare, but their presence in restricted waters operating in contravention to the rules of the road often creates problems for large vessels and endangers themselves.
3.2 Causes of Accidents Case Studies.

1. On the evening of Monday 21st February 1985, nine persons put out to sea in a 32 foot (approx. 10 metres) pirogue on the South coast of Trinidad for a return trip homewards. The weather forecast for that day indicated no particular adverse sea conditions, and according to one survivor, the sea although choppy was not considered to be dangerous. Yet within the hour, search and rescue operations were in progress to find five of the nine when their boat had sunk after being swamped, and four had swam ashore. There was no survival equipment on board, except for one floatable object, a gasolene tank. Five bodies were later recovered.

2. After a weekend spent in the sister isle of Tobago, a businessman was returning on his pleasure craft to Trinidad. A few miles at sea, the gas tank exploded. All aboard were killed.

3. On the morning of Tuesday 3rd September 1985, eight men boarded their 21 foot pleasure boat to cross the placid waters of the Gulf to one of the islands. The circumstances under which the boat overturned give testimony to the danger of an untrained and inexperienced person manning a vessel, and the fact that investigation revealed that there was not a single item of life saving equipment on board. The result was that five drowned, while three were saved by the watchful eye of a passenger on board an anchored ship. None of those who drowned were reported to be able to swim. (c.f. Appendix F...Hope fades for missing five.)

4. At the other end of the spectrum, three fishermen
allowed either over confidence or necessity to get the better of their judgement and put to sea in weather which should have been heeded. Only one returned when their pirogue was destroyed in heavy seas. (c.f. App.C Body on the beach)

The above-mentioned examples of tragedy at sea are but a few examples of incidents involving small boats in the waters of Trinidad and Tobago. Arguable, from the statistical point of view, one may infer that relative to the number of small craft which put to sea daily, the percentage is small. As will be illustrated later, an examination of the causes indicate that at least seventy five percent of the cases should not have been, and of the rest the chances of survival would have been increased if elementary safety precautions had been taken. Likewise, the financial output resulting from the SAR operations is very great, (c.f. Appendix D and Coast Guard Officer’s comment.) and the emotional strain experienced by many a family can only be appreciated by those who have been at the receiving end. From recorded evidence, it is possible to gain some measure of insight into the primary and secondary causes of mishaps at sea. These, taken from the recorded search and rescue files of the Coast Guard may be enumerated as follows:

1. Mechanical failure.
2. Swamping and overturning due to heavy seas or uncontrolled movement of persons on board.
3. Overloaded boats.
4. The use of unserviceable craft.
5. Inadequate fuel on board.
7. Operating in busy traffic zones without due regard the density of the traffic.
8. The absence of or inadequate communication.
9. The absence of safety gear on board.

With the possible exception of a sudden change in weather conditions it is reasonable to say that an unwavering observance of the rules are adequate enough to provide the solution to many of the incidents that occur.
3.3 Survival techniques when adrift or when cast over-board

The key to survival is being prepared to survive, brought about by attitude and training. "Hope for the best, but plan for the worst," would likewise seem to be an appropriate maxim to apply to the subject of survival at sea. Closely linked to this is the effectiveness of the search and rescue units. Adequate training provides their personnel with the knowledge and techniques which are designed to reduce the time factor so as to make as short as possible the period of uncertainty.

Without entering into the intricacies of search and rescue planning and procedure, it suffices to say that there exists a definite "modus operandi" involving the uncertainty phase, the response time and the duration of search. The uncertainty phase as the name implies, represents that period of greatest concern when decisions must await the reception of accurate information from sources indeterminate. It is here where the process of communication becomes important and where a reporting source, agency or individual as mentioned in chapter five (see recommendation 11) would be invaluable in terms of time-saving. In many cases, individuals take unto themselves the task of going in search of the subject. While this may be considered to be very humane, and in the best tradition of the seafarer, it can also be a very dangerous practice, since very often anxiety may preclude proper preparation for sea, and the potential rescuer becomes the rescued. The process of training would help to offset this tendency, not only by making seafarers aware of the inherent dangers of such a practice, but also by providing some knowledge of basic res-
cue techniques, a vital ingredient in the repertoire of any seafarer's book of knowledge. Most important it accurate information on all points mentioned under chap-
ter 4 Section 4.2.2 A.

Below are extracts taken from "Safety and Survival," (Lee and Lee) on recorded cases of being cast adrift or thrown into the sea, from which the reader may glean some information concerning methods of survival when faced with sea creatures, immersion, exposure, and the prospect of swimming to safety.

Sea Creatures

Under water swimmers, Caribbean.

Bernard Gorsky was circumnavigating in a forty foot cutter....."the warning signal we had agreed to use when threatened by a shark: a high-pitched "too-tootoo" which travels quite well through water when given into a breathing tube. A triangular gulf came down at me at 15 feet, I gave the signal, and at once the shark stopped dead, turned away and fled. A little later another appeared, so I went up to it and cried "tootoo-too". Yes, there was no question, the shark found that sound most uncomfortable and made off at once."

Casualty North Atlantic

J.M. Waters.... Captain U.S.C.G.

"Shortly before noon, I sighted a naked body. I also sighted something else........ a huge shark only a few feet away from the body. On the second pass, the shark was tugging the corpse around, and on the third, two sharks were fighting over it. Only one hundred yards away was another body, fully clothed and wearing an orange life jacket. It was not molested. Previously we
had seen an unclothed survivor of an aircraft being killed by a shark. I firmly resolved to keep my clothes on should I ever be unfortunate enough to be adrift in shark-infested waters."

Underwater Swimmers, South Pacific.
"......and suddenly there was that female shark. She came straight for me and so quickly that I experienced real terror. And sometimes there would be a shark that followed at a distance, wary of coming close, and making off at speed the moment we slapped the water with our hands......."

It would be erroneous to believe that the shark and the barracuda are the only two to which man must pay attention when cast over-board. Equally dangerous is the moray eel, the rays and "physalis," the Portuguese man of war.

Varied are the experiences which have been recorded of people who have been cast into the sea with such sea creatures. Some have survived while others have not. Conclusions have been drawn from careful assimilation of these experiences, but it still remains a question of whether there are formulated reasons which will allow a greater chance of survivability. One thing is certain, despite much scientific research including the development of the shark repellant, these animals remain a major threat to the survival of the unfortunate ones. However, there are a number of suggestions put forward which may in fact increase one’s chances of survival. They are
(a) Always be fully clothed when going overboard.
(b) Always keep movement in the water rhythmic especially while swimming. Uncoordinated movements such
as thrashing about suggest helplessness and are attractive to the fish.
(c) Use shark repellant.
(d) They may be kept away temporarily by deliberate aggressive movements e.g. slapping of the water.
(e) The shark's snout is the most sensitive part of the body, the underside the softest. At close quarters a blow on the snout would deter his aggressive attentions
(f) Do not urinate if a shark is near.
(g) Bind bleeding wounds. Blood activates the olfactory system of the shark which is well developed, and it can home in on the wounded person through very minute volumes of sea water.

**Survivors making for Shore**

Once thrown into the water, panic does not improve the situation. Most currents usually go back to shore at some time. Pleasure craft and fishing boats, by reason of their close proximity of the land from which they operate, will be more affected by tidal streams and rip currents which flow at right angles to the shore. Generally it is advisable not to swim against a current so as to conserve energy and warmth.

There are other physical effects of immersion which should be addressed when assessing chances of survival. They are cramp and exhaustion. The use of a life jacket would alleviate both these effects by keeping the body afloat when the limbs are useless.

Scientific tests show that water under 30 degrees C. has a cooling effect on the body. The purpose of wearing a life-jacket is not only to prevent drowning, but also to survive longer by not losing body heat through swimming.
Exposure

Survival depends upon protection against the elements, the availability of drinking water and the maintenance of the will to live. In the Tropics the greatest hazard is dehydration resulting from over exposure to excessive heat. The effect may be appreciated from the following quotation taken from Sir Earnest Shackleton on a trip in a ship’s boat from H.M.S. Endurance lasting sixteen days from Elephant island to South Georgia in the Falkands. "Thirst took possession of us......Lack of water is always the most severe privation that men can be condemned to endure." (From Safety and Survival at Sea, Lee and Lee)

On the other hand, death by hypothermia (rapid loss of body heat) is infrequent due to the temperature at which such waters exist. More prevalent on being thrown into the water is drowning due to the inability to swim or, as mentioned above, attack by sea creatures. Still, given enough exposure, the gradual drop in temperature would result in unconsciousness causing the head to droop. (c.f. graph overleaf, Symptoms of hypothermia) An efficient life jacket would support the head and keep the mouth and nostrils above the water preventing death by drowning. Hypothermia is delayed by remaining still in the water, which necessitates a life jacket, and by wearing protective clothing. It is accelerated by activity and drinking alcohol.
SYMPTOMS IN HYPOTHERMIA

(= lowered body temperature)

°C

SHIVERING STARTS

37

NO USEFUL ACTIVITIES

36

VICTIM DOES NOT REMEMBER

35

CLOUDED CONSCIOUSNESS

34

SHIVERING STOPS

33

50% SURVIVAL CHANCE

32

UNCONSCIOUS

31

DEATH DUE TO HEART STOP

30

TIME

29

From "Safety at Sea" published by Viking...A/S Nordisk
Gummibaadsfabrik, Denmark.
The following table based on casualty reports gives the expected time for survival at various temperatures.

<table>
<thead>
<tr>
<th>Sea Surface</th>
<th>Degrees C.</th>
<th>Degrees F.</th>
<th>Max. time of immersion for survival</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>50</td>
<td>3 hours</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>59</td>
<td>7 &quot;</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>68</td>
<td>16 &quot;</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>77</td>
<td>3 days or more.</td>
</tr>
</tbody>
</table>

Modern technology, greater efficiency in communications and search and rescue techniques, together with increased cooperation and vigilance at sea has in part nullified the possibility of inshore operators and near shore fishermen being adrift for excessively long periods, greater than five days. However, the importance of an adequate supply of fresh drinking water on board cannot be over-emphasised, because of the biological demands of the body at all times.
3.4 Accident Investigation

Accident investigation is an important function of any Maritime Administration. United States Maritime law is specific in its attitude towards accidents which take place at sea. Those involving small craft are treated with the same urgency as those of the larger vessels which are governed by more stringent laws of the SOLAS Convention, the International Convention on Load Lines, and the I.L.O Convention. The rationale behind this lies in the fact an investigation reveals or attempts to reveal discrepancies and/or failures which can either be rectified or at least made public. The consequence is that the causes leading to a particular accident may be remedied. In addition, and from the point of view of the sea-going population, such investigation invokes a certain degree of confidence in and reliance upon the system, by reason of a display of moral concern for its citizens.

The primary goal of a maritime investigation is to bring to light events which may have given rise to the accident, and to recommend preventative measures which can be incorporated into training programmes. The validity of developing the necessary infrastructure and the machinery for operational use lies in the basic fact of improving the safety of the small boat operator. The man-power which is needed can be drawn from personnel of the Coast Guard, Graduates of the World Maritime University, and other suitably qualified individuals.

With reference to a paper written and delivered by Dr. W.H. Lampe, Chairman, Federal Appeal Board for Maritime Investigation, in the Democratic Federal Republic of Germany, on the investigation into maritime
casualties, the Author quotes the following:
"It seems logical that mainly the lessons learned from an analysis of accidents will provide the community with the necessary knowledge to take preventative measures. These actions may range from legislation to recommendations or guidelines. In general, the purpose is fact-finding and the overall goal is to serve the safety of the vessel, those on board and the safety of traffic." From the point of view of training, incorporating a study of causes into a programme will provide the incentive for a positive attitude towards prevention through the observance of safety precautions. Continues Professor Lampe, "the Federal Republic of Germany states in its pertinent Act that a casualty is to be in existent, if by the operation of a vessel, its safety and in particular the safety of those on board, the safety of traffic or the condition of the waters has been seriously endangered."

Considering that any investigation is aimed at winning new experiences for the prevention of casualties it seems justified in taking into account incidents not only of large vessels, but of smaller ones as well. Not to be over-burdened with a large volume of incidents which would fall under the category of "casualty", and therefore by definition, require investigation, it would be necessary to insert in the statutes the condition of "public interest" which would introduce a legal instrument of a discretionary nature to differentiate whether an incident should be investigated or not. Such recommendations to the State Administration should be derived from the deliberations of the Maritime Administration.

In Trinidad and Tobago, this apparent state of concern
is not as yet apparent. The result is that maritime investigations concerning accidents caused by or involving small craft are not carried out, any salient facts which would have been brought out, and from which some benefit would have been derived are lost in the secrecy of ignorance......
CHAPTER 4

PART 1

TRAINING

4.1.1 The Purpose of Training.

The purpose of training fishermen and small boat operators must be such that after training has taken place, they will know how and when to use the safety equipment on board, including maintenance and storage, thus maximising efficiency and ensuring safety. Most important, lives are saved. During such training, an awareness is created which makes the recipients able to recognise that

a. Accidents do happen due to negligence, lack of expertise in the use of equipment on board, or circumstances which are entirely beyond normal control.

b. It is possible in the majority of cases to identify the causes of such accidents and the consequences thereof.

c. There are methods to prevent within limits of probability, such occurrences: safety measures, and methods to increase the chances of survival: survival techniques, when they happen.

d. There are laws which exist, and which have been formulated for the sole purpose of prevention of accidents.

e. Training assists in eliminating some degree of selfishness and promotes an understanding among seafarers which is an important factor in times of stress.

f. Training builds self-confidence, and often invokes a sense of discipline which maintains a steady head during such times.

h. Safety grows with knowledge and understanding, and
this is only possible through having standards.

In order to obtain a clear picture of the avenues which must be addressed in determining the content of a training programme sufficiently adequate to educate the small boat operator, and especially to provide coverage for human error, one must examine statistical data which gives evidence of mechanical failures, sinkings, fires on board etc. (Table 5 below.)

Table 5. Reasons for SAR Alerts in Trinidad and Tobago
From Coast Guard SAR records 1982-1987.
(1983 statistics unavailable)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of reports</td>
<td>59</td>
<td>61</td>
<td>86</td>
<td>101</td>
<td>128</td>
</tr>
<tr>
<td>Lack of fuel</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Overturned</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sinking</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>nil</td>
</tr>
<tr>
<td>Fire on board</td>
<td>2</td>
<td>nil</td>
<td>1</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>explosion</td>
</tr>
<tr>
<td>Aground</td>
<td>3</td>
<td>nil</td>
<td>nil</td>
<td>2</td>
<td>nil</td>
</tr>
<tr>
<td>Machinery breakdown</td>
<td>36</td>
<td>39</td>
<td>60</td>
<td>67</td>
<td>83</td>
</tr>
<tr>
<td>Collision</td>
<td>1</td>
<td>2</td>
<td>nil</td>
<td>nil</td>
<td>nil</td>
</tr>
<tr>
<td>Drownings at sea</td>
<td>3</td>
<td>4</td>
<td>16</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>
The figures given above represent the main sources of threat to safety at sea. Other causes whose numbers are not included are poor navigation, alcoholic influence low-wind drift (sail craft), delayed return, or arrival at a different location, and piracy. Vessels include fishing craft of up to 12 metres, and pleasure craft. Mechanical breakdowns have invariably been the initial cause of overdue cases, and account for the highest percentage. (see below)

Table 6. Percentage of SAR cases resulting from Mechanical Breakdowns, (1982-1987)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Total no. of reports</th>
<th>No. due to mechanical failure</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>59</td>
<td>36</td>
<td>61.0</td>
</tr>
<tr>
<td>1984</td>
<td>61</td>
<td>39</td>
<td>64.0</td>
</tr>
<tr>
<td>1985</td>
<td>86</td>
<td>60</td>
<td>70.0</td>
</tr>
<tr>
<td>1986</td>
<td>101</td>
<td>67</td>
<td>66.0</td>
</tr>
<tr>
<td>1987</td>
<td>128</td>
<td>83</td>
<td>65.0</td>
</tr>
</tbody>
</table>

Going to sea without adequate fuel to meet the needs of any emergency which may arise, he carries an insufficient amount of fuel because he lacks the ability to plan properly in carrying that excess for emergencies caused by inaccurate navigation (which skill he does not have), or extra amounts to be used in bad weather. Very often this has resulted from the lack of sufficient knowledge of the rate of consumption of the engine while he ventures beyond the intended limits. Another indication for the establishment of a training programme can be the state of preparedness which can be deduced from
the table below which shows the safety equipment recorded on board vessels which have found themselves in difficulty.

Table 7. Life saving equipment on board rescued craft.

<table>
<thead>
<tr>
<th>Year</th>
<th>no. of reports</th>
<th>L/jacket</th>
<th>L/ring</th>
<th>anchor &amp; rope</th>
<th>oars/ flares</th>
<th>w/less</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>59</td>
<td>1</td>
<td>4</td>
<td>no record</td>
<td>46/51</td>
<td>nil</td>
</tr>
<tr>
<td>1984</td>
<td>61</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>47/47</td>
<td>7</td>
</tr>
<tr>
<td>1985</td>
<td>86</td>
<td>5</td>
<td>5</td>
<td>14</td>
<td>64/66</td>
<td>2</td>
</tr>
<tr>
<td>1986</td>
<td>101</td>
<td>2</td>
<td>6</td>
<td>20</td>
<td>77/78</td>
<td>3</td>
</tr>
<tr>
<td>1987</td>
<td>128</td>
<td>4</td>
<td>9</td>
<td>23</td>
<td>101/104</td>
<td>1</td>
</tr>
</tbody>
</table>

4.1.2 The Process of Training.

By definition, the training process in any field is to make proficient by instruction and practice, or to undergo and follow a course of instruction and discipline. Such training must be so designed and executed that the recipient is made mentally, and if need be physically capable of meeting the needs of that particular discipline. Furthermore, an efficiently trained person will display certain characteristics not the least among which would be:

a. an instinctive approach based on tuition and practical application to the job at hand.
b. an orderly method of preparation.
c. an automatic adjustment to changing circumstances.
d. a working alternative or "plan B" course of action.

In the field of maritime training, and especially to the seafarer whose continued existence may at times depend upon any one or all of the above-mentioned, it is
especially important that the course of tuition should show proficiency in this direction.

Competency, proficiency and practice are essential to the seafarer and MUST be the primary objective of any maritime training. An important aspect of training in safety and survival at sea is the awareness and knowledge of what environmental factors operate, the magnitude of their strength and the time of the year when they are most operative. Such training must be geared to cope with the prevailing conditions and must be designed to ensure that proper application of acquired techniques would bring about a reasonable margin of safety. There is a certain amount of basic preparation which should be made before putting out to sea. Likewise there is basic gear which should be on board from the outset. Pursuance of these factors would ensure that a minimum of risk will be taken and that there will be increased chances of survival if an accident does occur. (c.f. Safety measures para 4.2.2)

It is not the intention of the author to enter into the details of what different approaches may be adopted in arriving at a particular course of tuition in this field, since this will depend upon factors such as the availability of teaching expertise, the academic level of the recipients of such training, and the extent to which such training is needed. On the other hand, one can hardly approach the subject without encountering a fundamental plan from which would emanate degrees of sophistication in teaching the subject.

The content of such a plan would include, INTER ALIA, a. The environmental factors to be coped with, for
example, density of shipping traffic, proximity of fishing area to shipping lanes, the size of vessels encountered and their manoeuvrability, and meteorological conditions.

b. The social and economic influences of the fisherman.

c. The psychological state of the seafarers, with over-confidence being a very dangerous state of mind, usually because he has been at sea for a considerable period of time without mishap.

From the point of view of physical preparation, the small boat operator must be fully acquainted with the geographical state of and the climatic conditions that exist in the area in which he intends to operate. Thus his training would provide that state of preparedness which would manifest itself in the gear which he carries on board, his boat construction which would reflect its adequacy for the stress to which it would be subjected, and his ventures to sea which would be at the most favourable times, or would be at those times when risk is at a minimum.
4.1.3 The Development of a Training Strategy

In the development of a training strategy, the following elements should be taken into consideration:

a. A comprehensive plan of training in safety and survival.
b. The creation of an awareness of the danger which await those who venture to sea unprepared.
c. The infrastructure necessary to accommodate the implementation of such a plan.
d. Regulations, measures and procedures which can be enforced to prevent unlawful acts which threaten the safety of operators and passengers on small craft, and other users of the sea.
e. A commitment of the enforcement agencies to perform their duties with urgent dispatch. This can be made possible only by providing an efficient means of dealing with defaulters with a minimum of bureaucratic and legal interference.
f. Supportive regulations for the enforcement agencies.
g. A commitment by employers and training establishments concerned with fishing or small craft operations to satisfy themselves as far as possible that they are properly instructed in the dangers of their occupation and in the precautions necessary to avoid accidents.

The training strategy would address the areas of deficiency which have been identified, and be structured along the following lines:

a. The pursuance of the means to ensure more mechanically qualified operators. The problem of not having enough fuel follows from not knowing how much fuel is needed to cover a specified distance, (allowing for wind and current), and perhaps not even knowing the distance. Hence a lack of navigational skills.
b. The provision of information on basic meteorology which would enable seafarers to identify the unfavourable conditions or to understand weather forecasts as they relate to the sea state. Wind and current are the two important factors in determining the position of a boat which has lost its motive power. This especially so with regard to coastal craft.

c. A proper appreciation of the dangers which seafarers face when putting to sea.

d. A comprehensive study of safety equipment available, the use and limitations of each in relation to their survival.

e. Methods of survival when cast adrift.

f. Basic navigation with special emphasis on position fixing, the use of the compass, elementary chart work and celestial bodies.

g. A knowledge and use of the equipment which one would expect to find on board, including local charts.

h. Public education in the form of T.V. documentaries, brochures and pamphlets designed to alert the sea-going holiday traveller as to what he should expect when boarding a vessel.

i. The elements of fire prevention and fire fighting.

j. Survival techniques as they relate to the local environment.

Programmes for the pleasure craft operators would of necessity require an additional motivation to that for the professional fisherman. In the first instance, it is important to impress upon the sea-going public that the projected effort is to their benefit and for their safety. Because such training is voluntary, the effort to participate will be individual, promoted either by encouragement, or the realisation of the need to be
well-prepared physically and psychologically when going to sea. The period and time of training must be such as to accomplish the syllabus without causing undue inconvenience, which would discourage would-be participants.

4.1.4 The Method(s) adopted to ensure effective training

Presently, in Trinidad and Tobago training fishermen and small boat operators in safety and survival is carried out on the basis of voluntary participation. As a result, whatever methods are used they must produce acceptable results in the eyes of the recipients. The transfer of knowledge and information is through communication with others. This is much more easily spoken of than achieved because the fisherman is by nature individualistic, and has gained his knowledge through handed down practices and experience. This, he feels is sufficient to serve him on his future forays to sea. He is therefore loathe to subject himself to what seems to him to be unnecessary training. Besides, he views the time spent being tutored as being equivalent to loss of earnings, and his tutors as amateurs in this his specialised field.

The pleasure craft owner on the other hand rarely ventures to sea far enough and often enough to, in his estimation warrant any type of training. He goes only when conditions seem suitable. The result is that he deprives himself of the opportunity to avail himself of training which he will need at the critical period.

The present system of training fishermen and small boat operators is carried out mainly by personnel of the
Caribbean Fisheries Training and Development Institute with the assistance of members of the Training Department of the Coast Guard and other maritime-oriented agencies. In addition, while not directly concerned with training, Fisheries Extension officers of the Ministry of Food production, Marine Exploitation Forestry and the Environment visit the fishing communities and provide service to the fishermen in areas of registration, processing of subsidies and any other relevant matters. An example of the training programme offered to fishermen and small boat operators by the C.F.T.D.I. in 1988 training schedule is given below.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>DURATION (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coastal navigation and general seamanship</td>
<td>4 courses each lasting approx. three and one half weeks.</td>
</tr>
<tr>
<td>2. Safety at sea</td>
<td>one course of four weeks</td>
</tr>
<tr>
<td>3. Navigational aids</td>
<td>one course of 10 days</td>
</tr>
<tr>
<td>4. Marine safety</td>
<td>one course of 18 days</td>
</tr>
<tr>
<td>The mechanical aspect is covered by the following course</td>
<td></td>
</tr>
<tr>
<td>5. Engine maintenance</td>
<td>3 courses each of 18 days duration</td>
</tr>
</tbody>
</table>

The courses mentioned above are specific to fishermen of both the artemanal and trawling fleet. Additional courses are organised for other interested groups on request. Courses are also provided for the licensing of operators of small boats which carry passengers within coastal waters. The process of certification is through examination carried out under the supervision of the Harbour Master’s Division which is responsible for such matters.
For the fishermen (except those operating trawlers) and pleasure craft operators, there is no pressure or obligation brought to bear on them, except a moral one to participate in such courses. The approach which is necessary to attract the sea-going fraternity that would maximise the facilities which are available must therefore extend beyond that which presently exists in order that there maybe greater returns. If we accept the lack of enthusiasm on the part of a major portion of small craft operators (both fishermen and pleasure owners) as being general, then it becomes necessary to sensitize them by other means. This can be done by way of
(a) Television viewing which represents one of the main means of relaxation. This can be used to an advantage where documentaries may be shown on the subject, and interviews held with those who have experienced misfortune at sea on a regular basis. Thus one of the main criteria will have been served, that of awareness not only by those who may be daily exposed to the vagaries of the sea, but also those who occasionally serve as passengers.
(b) Regularly organised visits to fishing villages and pleasure craft associations by suitable members of the Coast Guard for the purpose of delivering lectures in safety and survival.
(c) Organised lectures by the above-mentioned officers to the senior students of Secondary schools, some of whom often participate in trips to sea with their elders.
(d) Appropriately prepared and circularised pamphlets among the sea going population will assist in creating that consciousness which would awaken interest.
4.1.5 The Psychological aspects of being cast adrift...

Training in preparation of...

Shortage of food and drink, and exposure to the elements result in biological changes which in turn affect mental and emotional stability. The body's immediate reaction to stress is a phase lasting usually about half an hour, of heightened mental and physical activity due to the increased flow of the hormone adrenaline. Following this will be a period of adaptation the extent of which will vary from person to person. The survivor who adapts well will marshall his thoughts to those of survival, work out priorities of action and avoid panic. Regardless of how much physical equipment he has, his chances of survival will be enhanced if he has the right mental attitude with the power to adapt and the will to survive.

The foregoing would seem to be more applicable to persons who have been cast adrift for many days either alone or in company with others. With regard to the subjects which are here under consideration (occupants of small craft) it is not unknown for them to be lost for periods of up to 72 hours. During this time, when reality of the situation, helplessness and fear dominate their thoughts, reactions are similar and the conditions as mentioned above are equally true for them as it would be for the survivors of an ocean going vessel, with possibly a little more hope derived from the fact that land, for the time being may be still in sight.

Training in survival techniques, confidence in his equipment and his own ability to survive are all essential. Complimentary to this is the psychological
aspect of adequate mental preparation for such eventuality. The dangerous but common feeling that quote," it could never happen to me," unquote, must be eliminated. For as long as man sails upon the seas, he is subject to the vagrancies of its moods and to Nature’s forces which can generate conditions capable of threatening even the best the ship-building industry can produce.

The shock of realising that the false sense of security created by a well-working or well-equipped craft has been exploded by a single abnormal wave or unanticipated bad weather may be quickly followed by a state of panic and depression. The solitary person is in the worst position. He will hang on for a time, expecting rescue, but as time passes he becomes despondent. Alternatively he may have faith in other seafarers finding him, and having prepared himself as best he could, settles down to await rescue. And herein lies the obligation of the search and rescue arm to establish the confidence needed to remain the hope of rescue.

In conclusion, in a survival situation, man is suddenly and often without adequate warning directly exposed to the elements. Among others, he is immediately threatened with drowning, cold, despair and attack by sea creatures. The will to survive is the survivor’s best weapon, since the fight is not only against the elements, but also against oneself and the part that wishes to give up.
4.2.1 Safety and Unsafty among Fishermen and small craft Operators

Before going into the application of safety measures which should be, and in some cases are mandatory, it is appropriate to review observed cases of blatant disregard for such precautions. It also gives weight to the need for proper training.

Fishermen, unlicensed to carry passengers, and using their craft which has been registered and equipped solely for fishing are regularly seen transporting passengers from one point to the next in boats loaded to the gunwhale, or with very little freeboard. The danger of this practice needs no complex explanation. Heavy seas or another passing craft can very easily cause swamping. Complimentary to this is the fact that an examination of the safety gear on board will often reveal a bare minimum hardly is ever enough to serve everyone in case of capsizing. The fact that such trips are usually planned to be of a short duration is no argument for inadequate safety facilities nor overloading of a boat, since sea conditions may change momentarily with catastrophic results which may last a lifetime.

An examination of the emergency gear found on board fishing boats, would reveal that very few of them are adequately out fitted. The life jacket or life ring, for example, is usually looked upon as constituting nuisance value, as are the metres of rope, occupying space which could otherwise serve as storage for a part of the catch. They are therefore not carried at all or stored
in inaccessible places. Adherence to the safe quantity of net taken on board or its stowage pattern is never given serious attention, since greater concern is paid to the increase in catch resulting from the use of a larger net.

Among some aspects of safety applied to pleasure craft which are very often over-looked is their speed, and the age and experience of those who pilot such craft.

High speed boats create an enormous backwash and represent a deadly menace to others, especially when loaded, in enclosed waters. It is in this context that careful consideration must be given to a training formula together with rules and regulations designed to offset what is obviously a dangerous deficiency. Pattern may be taken from the methods adopted in some countries such as the United Kingdom, the United States and The Federal Republic of Germany where stringent rules control the operation of small and highly powered craft by juveniles and untrained persons.

Of the fisherman, lack of an available companion or necessity sometimes results in his having to put out to sea alone in order to make a livelihood. This action cannot be looked upon with favour, since many things can occur which may render the individual incapacitated or incapable of helping himself. Under such circumstances, his chances of survival are reduced considerably. To do so at night especially when carrying nets to be put down and retrieved is courting disaster.
4.2.2 Safety measures

There is hardly a situation to which the old adage that "prevention is better than cure" can be more appropriately applied than when going to sea. To the trained seafarer and the consciously aware traveller, safety at sea strikes at the very root of his continued existence. It is in this context, then, that every effort should be made to evolve training programmes which satisfy this particular need in its entirety.

If reference may be made to an article written by a Coastguardsman directed to the fishing community on World Food Day, October 1986, "It is a true testament of the skill and professionalism of the Search and Rescue Unit of the Coast Guard, that some of these fishermen are even found, since the information that is given is often insufficient, incorrect, or arrives so late that it is of little value in helping to locate the subject." Along similar lines he writes," There is an apparent lack of awareness of the safety measures to be observed before leaving for sea.

Some of the basic transgressions committed include going to sea without an anchor, having no extra fuel on board, not leaving proper information of their location, with whom and when they are expected to return, no extra rope or life jackets, and paying no attention to weather reports." With reference to ignoring weather reports, the author quotes a daily newspaper report on an accident at sea when two fishermen drowned. Says one villager, "It is no secret that the waters were very bad for fishing on Saturday afternoon, and these men should not have gone to sea at all. Sometimes people come here and set out to sea with fishing line and nothing for use
in an emergency. If they ever get into trouble"... (see Appendix C, "body on the beach" for full text.)

Bearing these observations in mind, it is possible to enumerate several guidelines which should be followed to ensure a maximum degree of safety when putting out to sea. (see overleaf.)
A. **Before going to sea.**

Pleasure craft generally operate close to land and fishermen usually do so on the same ground continuously. This assumed familiarity with the areas and conditions often result in their not taking time off to prepare, a plan for the voyage. Nevertheless there are certain basic precautions which of necessity should be taken. They are as follows:

1. A description of the boat, (size, colour, registration any peculiar characteristics), and the number of occupants.

2. The estimated time of departure (E.T.D.) and the estimated time of arrival (E.T.A.) should be left with someone who can provide this information in case of necessity.

3. The intended destination should be made known.

4. A reserve supply of fuel should always be carried on board. Statistics taken from Coast Guard SAR files show that in 1985 there were six cases of going adrift due to a lack of sufficient fuel, while in 1987 there were fourteen. In most cases the extra consumption was caused by the incidence of bad weather, while the other cause was venturing beyond the original point of destination without giving thought to a lack of or insufficient reserve.

5. An adequate supply of drinking water should be carried.

6. For craft carrying wireless, contact should be made at the beginning of the voyage with the marine authorities (Coast Guard or Marine Police) informing them of the intended destination and stay if necessary.

7. Sufficient life-jackets should be carried so as to accommodate each person on board. They should know how to use it. (c.f. Recommendations... Life jackets and
life jacket lights

8. A check should be made of the latest meteorological forecast either from the newspapers or from the weather station or Coast guard head quarters.

9. There should be proper survival equipment on board. This should include protective clothing, life rings, an efficient holding anchor, first-aid kit, rope, food and water, a tool kit for mechanical break-downs, and bright cloth (orange) which can easily be seen. The International Medical Guide for Ships '67 prepared by ILO, IMO,WHO, provides guidance for first aid equipment and instructions which should be carried by all fishing vessels. While such provisions may be in excess for the boats which are here under discussion, the book may be used to determine what would be practical on board such craft.

10. Ensure that the boat is not overloaded either with persons or gear, and that there is an even distribution of weight so that the stability of the boat is not affected.

11. If navigation and radio equipment are fitted, they must be in working condition and protected from the elements.

12. Adequate clothing must be worn to protect the skin from the elements of heat and rain, and in the event of being cast adrift in an open boat, rapid dehydration.

13. Sometimes the difference between life and death may lie in the presence on board of an empty can or any floatable object.

B. While at sea.

i. Especially in open boats and in heavy seas, life jackets or vests should be worn in the event of being swamped or washed overboard.
2. During passage there should be no undue movement of persons.
3. Limbs should not be allowed to trail in the water.
4. Always maintain a sharp lookout for oncoming vessels which by reason of their size may not be easily manoeuvrable. Such vessels should always be given the right of way.

C. At end of voyage
1. Inform either the relevant authority or some one responsible of your return.
2. Check for damaged or worn out gear which would render it useless when needed again.
3. Secure all gear in a proper place.
4. Extensive over-stay of time or change of destination which would involve a much longer period of time at sea without passing on such information should be avoided. This eliminates possibilities of false alarms and anxiety on the part of relatives.
5. Fresh water storage cans should be emptied and refilled only at the commencement of a new voyage.

4.2.3. The Importance of Radio Communication.
One of the most critical components of safety on board any sea-going craft is communication equipment. It is to be regretted that its importance is not manifested by a greater demand for its installation on board craft of the types referred to here. It is a meaningless argument that whether professionally or for pleasure these boats operate in sight of land, since those who have experienced going adrift will bear testimony to the fact that the entire experience may have been begun within a mile or two from shore, often within radio range of another
vessel or of a shore-based station. In view of the number of cases of boats going adrift, and bearing in mind the expense which is incurred in searching for lost craft, some form of radio communication should be made mandatory and financially available. Certainly the wisdom of having on board a transceiver of some sort should be appreciated by all who go to sea, and more stringent rules should be formulated requiring the acquisition of a unit with the necessary control with regard to transmission. For example, among the normal and international distress frequencies monitored by Coast Guard is channel 270.65 Mhz which is the citizen band frequency. As will be seen later it is for this specific reason that the knowledge of basic navigation becomes necessary.

In Trinidad and Tobago over 90 percent of the fishing fleet consists of open boats of between six to ten metres in length and powered by outboard motors. At the moment there are no laws or regulations in force which require the installation of telecommunication equipment. In addition the open nature of the pirogues and the location of beaches or unsupervised moorings make undesirable the tendency to participate in such an investment.

Not withstanding the above, the fisherman should be sensitised enough to appreciate the necessity of having some sort of communication equipment on board his vessel when he puts out to sea. While one would hardly expect him to invest in expensive and sophisticated equipment, Citizen Band radios, and walkie talkies can prove invaluable in times of distress to initiate an early response at the critical period when, in the first twenty four hours the establishment of data relative to
the last known position determines the length of time spent adrift. Portable transistor radios can act as a radio direction finder, but more important, an early warning of impending danger through a change in weather heard over a radio monitor could alleviate disaster through instant response if already at sea.

A rescue at sea is always a matter of cooperation between two parties, namely those in distress and those who are to rescue them. The equipment is the seafarers part of the cooperation. Efforts of the sea rescue service are far too often unsuccessful because those in distress cannot fulfill their part of the task, in that they are unable to call attention to themselves in a manner which gives the service a reasonable chance of a sighting.

4.2.4 The Importance of Competency in Navigation

One can hardly dispute the importance of navigation to the seafarer, whether professional or casual. Equally, the extent of ignorance of even rudimentary navigational processes, or the absence of appreciation for adequate training in this respect has turned many a simple case of travel between two points into a major search and rescue operation. This lack of training in navigation is common among most users of small craft especially those of the professional fraternity who view their survival over the years as being due to instinct and self tuition from experience. They are consequently not particularly enthusiastic to utilise whatever training opportunities are available, either because of the feeling of inadequacy in grasping the fundamentals or a suspicion for the technical and/or scientific approach to the subject.
The pleasure craft operator generally sees his ventures to sea as being so limited in distance and time that navigational expertise seems useless. The important factor that is lost to them all is that Nature does not necessarily give forecast of unfavourable weather conditions, and the isolated case where there is unforeseen bad weather usually necessitate the use of such knowledge. Ultimately the cost may be, at a minimum an expensive search and rescue operation, with great anxiety to relatives ashore, and at a maximum the loss of life and property.

Training in the field of navigation and the use of navigational aids is necessary and has certain advantages:

1. The seafarer will always be able to pinpoint his position relative to land. He will know when he has ventured beyond the limits of his intention and will take corrective measures.

2. In case of an emergency he would be able to locate his position with a reasonable degree of accuracy and with the use of radio communication, reduce the time lapse in search operations and ensure his rescue.

3. Most important is the confidence which ensues in the knowledge that a venture to sea whether as an occupation or for pleasure is reduced in its risk by having possession of the means of returning safely if conditions should warrant the use of such knowledge.

There are two concepts which one may explore in providing reasons for the importance of navigational training. The first is that of self-preservation and the preservation of those on board. The second is the potential danger which the small boat operator poses to larger
craft which are themselves navigating in confined waters, bays or sea lanes. To take a case in point, it is not uncommon to come across fishing craft anchored in the middle of a sea lane, secure in the knowledge that it will be seen, and evasive action taken by the other vessel irrespective of size and manoeuvrability. At night a single weak light may be all the indication of the fisherman's presence. To the navigator on board a large vessel, such activities represent a night-mare. Nor is it rare to observe a complete lack of observance of the rules of the road by the small craft operator who dwells on the premise that the manoeuvrability of the large vessel bearing down on him can be equated with that of the boat which he himself commands. Navigational training being as complex an exercise as may be ventured into, it is necessary to educate only in those aspects which may bear relevance to the recipient.

Thus, the extent to which the training is done where small craft operators are concerned would be influenced by:

a. The operational distance from land.
b. The navigational equipment which will be of practicable use.
c. The prevalence of sea traffic.

Coastal navigation, PER SE, usually provides an adequate degree of competence especially in terms of position fixing, which could be considered the most important aspect while at sea. From the fore-going it is not difficult to identify and therefore to rationalise the close link that exists between navigational competence of the small boat operator and his safety at sea. (1) He serves to protect himself and those on board.

55
(2) He reduces his nuisance value where larger craft are concerned as a danger to safe navigation, and
(3) He increases his chances of survival when the circumstances demand.
4.2.5 **RECOMMENDED TOPICS FOR THE DEVELOPMENT OF A TRAINING PROGRAMME FOR FISHERMEN AND SMALL BOAT OPERATORS.**

In support of the arguments put forward for relevant and effective for fishermen and other small boat operators the following topics are recommended for consideration:

**SEAMANSHIP**
(a) Manoeuvring in heavy weather and rough seas and low visibility.
(b) Manoeuvring in heavy traffic and confined spaces.
(c) Seamanship with respect to engine breakdown and loss of power.

**NAVIGATION**
(a) Coastal navigation...The use of the chart. Basic chart work.
(b) The Magnetic Compass...structure, use and limitations of.....
(c) Identification of lights and signals.
(d) Collision regulations... rules of the road especially as they relate to the movement of larger vessels in confined waters.
(e) Basic Meteorology... weather appreciation, winds and currents.
(f) The identification and use in navigation of some celestial bodies.

**COMMUNICATION**
(a) Basic communication equipment suitable for small craft, and the use of....
(b) The importance of communication at sea.
(c) Laws governing the use of transmitters.
SAFETY
(a) The types of safety gear suitable for small boats.
(b) Proper use of safety gear.
(c) Servicing, storage and maintenance of safety gear.
(d) Preparation for going to sea.
(e) The danger of overloading.
(f) Responsibilities with regard to passengers.
(g) The legal aspects of liability.
(h) Obligations of enforcement agencies...Their powers of jurisdiction.
(i) Fire fighting.
(j) First aid.

SURVIVAL
(a) Psychological preparation for emergencies.
(b) Behaviour in emergencies.
(c) Physical preparation for survival.
(d) Survival techniques.

ENGINEERING
(a) Engine maintenance.
(b) Engine failure...causes.
(c) Trouble shooting and emergency repairs.
(d) Safe working practices.
CHAPTE R 5

ACTS AND ORDINANCES OF TRINIDAD AND TOBAGO
GOVERNING SMALL CRAFT.

Prior to December 1, 1987, there were three Acts of Parliament which could have been employed to ensure that safety standards were provided for all small craft. They were
(a) The British Merchant Shipping Act of 1894.
(b) The Fisheries Act of 1916.
(c) The Pleasure boat Act of 1977.
In addition, there is the Harbour Master’s Ordinance of 1880, which, however, is limited in its area of jurisdiction.

5.1 THE TRINIDAD and TOBAGO SHIPPING ACT No 24 of 1987.

This Act was assented to on December 1, 1987 by an act of Parliament. It supercedes the British Merchant Act of 1894, and the Pleasure Boat Act of 1977, both of which have ceased to have any effect in their application to the State. (Section 413 of the Act.)
It makes provision for the REGISTRATION of ships whose overall length exceeds 24 metres, the Licensing of ALL ships, and the safety of life at sea for their crews.

Section 40 specifically states that every ship under 24 metres shall be licensed under this Act, except
(a) pleasure craft of less than five (5) metres in length which are not equipped with propulsion machinery, and
(b) pleasure craft of less than three (3) metres equipped with propulsion machinery of not more than 5HP.
There seems to be lacking the means of effective control which could be exercised if registration was made mandatory for ALL craft and those already covered by the Fisheries Regulations.

Section 43 of the Act states that the Minister may make regulations regarding the LICENSING of ships for, INTER ALIA the manning of and the life-saving, safety and fire-fighting equipment to be carried on such ships as specified under the Act. (see section 40)

Such regulations would adequately cover the vessels under consideration in this thesis, that is, up to 15 metres in length, and for that matter pleasure craft and fishing vessels with the exception of (a) and (b) of section 40.

Section 204 states that the Minister may make regulations....collision regulations
(a) respecting the lights to be carried and exhibited.
(b) respecting the steering and sailing rules to be observed, having regard to any International Conventions or Treaty in force for the prevention of collisions at sea.

It is expected that such regulations must include the application to pleasure craft.

Finally Section 406 states that the Minister may, INTER ALIA, make regulations for the following purposes
(1) The operation of Maritime Schools.
(2) Pleasure craft and other craft.
(3) Ships operating solely within the waters of Trinidad and Tobago.

It is very significant that the importance of Maritime Schools should be recognised, and that pleasure
craft should be specified.

It seems therefore that the Shipping Act has within the body of the Act the means of exercising the control that is necessary to ensure that small craft users and operators function within the parameters as defined by the law. What is left would obviously be to hasten the formulation and production of the necessary regulations, beginning with the Registration of the pleasure craft of less than 24 metres in length. (see recommendation 2)

5.2 THE FISHERIES ACT of 1916

The Fisheries Act provides for, INTER ALIA, the operational use of all fishing vessels in so far as it affects their trade, the use of approved gear in terms of type and size, the control of catch and the seasonal fishing of certain species of aquatic animals, and the purchase and registration of boats. The Fisheries Regulations give force of law to the contents of the Act, that is, the conservation and the preservation of species, and the designated use of their craft. For example, the regulations stipulate that such craft that are registered for fishing should not be used for the purpose of transporting passengers for monetary gain, since they (the fishermen) in so doing, would have benefitted unfairly by certain dispensations e.g. the reduction of fuel cost, introduced solely as an incentive for the expansion of the fishing trade, and improved economical benefit for them.

However, from the point of view of providing for their safety when at sea, nothing within the Act or the regulations provides for the inclusion of mandatory
safety requirements including the carriage of safety gear and the periodical inspection of his craft for seaworthiness or the training of captain and crew.

5.3. THE PLEASURE BOAT ACT

On the 30th December 1977, an act to provide for the registration, survey and control of pleasure boats cited the "Pleasure Boat Act" was assented to in Parliament. The purpose of this Act was to form a basis for the infrastructure which would provide for the control of such types of craft in such important aspects as registration, (section 5, sub-section 1), surveys (Section 8, sub-section 2), the number of passengers specified to be allowed to be on board, examination and certification of operators as set out in Part D, of Annex B of the Safety of Life at Sea 1974 and their activities at sea with regard to other users. (Sections 28(2), 29 and 30(3), all relating to operators who "carelessly and recklessly" operate pleasure boats. This Act had within its structure the means whereby suitable control may be exercised by a designated Authority over the activities of pleasure craft. However, it was impossible for the law enforcement agencies to effectively police operators of these craft if they were not given the instruments with which to carry out their duties. In this instance, such instruments are regulations governing the Act, and Legislation which gives the Act the force of law.

Because none of these existed the Pleasure boat Act was nothing more than an administrative document. The result was that many dangerous situations and unlawful occurrences went unpunished.
United States Federal Maritime law stipulates that the Coast Guard may stop a pleasure boat which is being operated in such a way as to place other users of the sea in danger and cause the vessel to be brought ashore pending charges being laid down. Similarly investigative action involving boats which have on board more passengers than they are registered to carry can result in a similar course of action. Finally the law states that an operator of a pleasure boat must be in possession of a license for carrying passengers for monetary gain.

The Maritime Administration of both the United States and the Federal Democratic Republic of Germany has within its structure the means whereby pleasure craft owners and operators may avail themselves of courses which make them more proficient at sea.

While in the United States there is no Federal law which limits the age at which an individual may operate a pleasure craft, some States e.g. the State of Maryland, decree that a course in navigation and Seamanship is necessary for persons below the age of 16 years before permission is granted to operate a power boat. Furthermore the absence of Federal Law does not preclude Civil liability or criminal investigation in the event of an accident.

There are 216 pleasure boats on the registered lists of the various associations comprising power boats and sailing vessels which fall into the category of the definition of the above-mentioned definition. It would be more appropriate to have these boats registered under National law subject to the laws governing their operation.
The Harbour Masters Ordinance of 1880 provides for strict control of the movement of small craft and their operators, and in accordance with article 59, the Harbour Master has complete jurisdiction within the precincts of any designated harbour in Trinidad and Tobago. With respect to the licensing of boats, Article 30 of Chapter 1 states that, "the Harbour Master may upon application of the owner of any boat, and upon being satisfied as to the safety and fitness of such a boat .............., may grant a license in respect of such a boat." With respect to boatmen he may, "on the application of anyone whom he considers "a proper person" grant to such a person a license to ply as a boatman in such a harbour."

The Author considers the term "a proper person" to be a deficiency which could be much better served by stipulating that some evidence of training be the requirement for the provision of such a license.

Article 35 of the Ordinance is very important in the context of the subject under consideration, and states, "every person who, within the limits of the harbour and without having a license in force keeps a boat for the purpose of carrying passengers for hire, or plies as a boatman, shall be liable to a fine ........"

Since the majority of cases of overloaded boats take place within the boundaries of the harbour, and more so by unlicensed persons, any deficiency in the system will have to be placed upon the ineffectiveness or absence of surveillance by the appointed Authority.

From the point of view of safety measures, Article 43
entitled "equipment for boats" is very deficient in that it states in part that when employed or plying, shall be furnished with four good oars, rudder, tiller and spare T-hole pins, and a bucket or other utensil for bailing. No mention is made of the most important equipment..... life jackets, life rings and communication equipment.
(c.f. Recommendation 4, British Merchant Shipping notice M1311)

The foregoing provides evidence that while there is the Authority invested in certain individuals or offices for the administration of safety standards and the enforcement of existing laws, there are many deficiencies to be corrected if the safety of the small boat sea going population is to be ensured. These are the inadequacies of the laws themselves to encompass all aspects relating to the safety of the small boat population. Consequently, revisions and additions would seem to be most appropriate to meet the suggested standards.
5.5 THE T.T./VENEZUELA FISHING AGREEMENT IN SO FAR AS IT INFLUENCES THE SAFETY OF FISHERMEN OPERATING IN THE TERRITORIAL AND INTERNAL WATERS OF THE NEIGHBOURING STATE.

There exists between the Republic of Trinidad and Tobago and the Republic of Venezuela a bilateral fishing agreement which permits the fishermen of both States who are in possession of designated permits to fish in certain specified areas of each others territorial waters. This agreement generally provides for reciprocal access to each others waters. It follows an earlier agreement of December 1977 which has been renewed several times. The present agreement made in 1985, is of two years duration. At the time of writing, negotiations would be underway for the renewal of the existing agreement.

With specific reference to Trinidad and Tobago fishermen, there are two operative terms to which they should pay particular attention in the interest of their safety when in Venezuelan waters. They are
1. Being in possession of designated permits given by the Venezuelan authorities.
2. Their allowed presence in certain specified areas off the Venezuelan coast.

Article 1 limits access to fishing areas specified in the Agreement and prohibits fishermen from engaging in non-fishing activities.

Article 3. allows for 60 Trinidad and Tobago boats which
have been issued with permits to shrimp by trawling in specified areas. It prohibits shrimping in the tributaries of the Orinico river. (Section 3 sub-section 7 outlines, INTER ALIA, the obligation of fishermen for their own protection and safety.
(a) To carry proper identification when fishing.
(b) To carry the boat registration card when fishing.
(c) To carry the fishing permits issued by the Government of Venezuela.
(d) When fishing in Venezuelan waters, to comply with the terms and conditions set out in the Agreement and restrict activities to fishing.
(e) When fishing in Venezuelan waters to present documents to the Venezuelan authorities.

There is recorded evidence which shows that many incidents dangerous to life and property have occurred due to failure to comply with one or more of the above. The result is that the safety of the crew had been placed in jeopardy. Investigation has further shown that negligence or resistance to compliance has been the major cause. There is the saying that fishermen are to be found where the fish is and that political barriers should not be set up to interfere with what has traditionally been fishing grounds without nationality. Those who believe in either one or both of the afore-mentioned have come into conflict with the surveillance authorities.

Over the years political expediency, security, increased vigilance over the conservation of marine resources especially fisheries, and maritime laws concerning territorial limits have demanded that a complete rethinking be made with regard to the movement
of fishing vessels within the national boundaries of other countries. Traditional practices hold very little, if any influence under the present day circumstances, and they must be made aware of this. Delinquency in the obedience of stipulated rules and regulations must not serve as an excuse.

It is therefore in the interest of the safety and well being of fishermen who operate in or around the territorial waters of another State that training has as one of its objectives to outline the dangers associated with being held in violation of the terms and conditions of the Agreement.
5.6 Enforcement

Rules and regulations are only as effective as the extent to which they can be enforced. Enforcement agencies are usually hard-put to make any lasting impression in an environment as the sea whose potential to absorb an increasing sea-going population vastly out weighs their capabilities. The result is that too many lives are inadvertently placed in jeopardy.

In Trinidad and Tobago, it is necessary to revolutionise the method of and approach to enforcing those regulations which exist to the extent where vagrancies are minimised. Furthermore, enforcement agencies are usually hampered by the lack of effective jurisdiction when executing their duties, and in this regard the appropriate legislation which is the back-up to authority is very necessary. It is useless to detain the operator of the over-loaded boat when there is no machinery to effectively deliver a judgement which will discourage repetition of the misdemeanour. The arresting agent himself must be aware of the implications of his actions, and this can only be accomplished through adequate training, seminars and other means. Under conditions where proper surveillance is inadequate, it should not be too difficult to appreciate that emphasis on preventative measures through training and awareness would produce better results, and reduce the financial cost incurred through expensive rescue operations.

Despite the suggested inadequacy of regulations in the country cover certain activities of the small boat operator, those that do exist should be applied with greater diligence and firmness. For example under
Article 59 of the Harbour Master's Ordinance 1880 Ch. 18 No.1, headed "Powers of the Harbour Master to enforce orders," jurisdiction is given to take such measures as the seizure of vessels when the relevant laws have been contravened. Article 35 states that, "every person who, within the limits of the harbour and without having a license in force under this Ordinance, keeps any boat for the purpose of carrying passengers for hire or plies as a boatman shall be liable to a fine for the first and in the case of any subsequent offense, to an increased fine. Likewise every licensed boat shall, when employed or plying for passengers, be manned by two licensed boatmen." While Article 42 states that "when it appears to the Harbour Master that any licensed boat is out of repair or unseaworthy, or otherwise unsafe, such Harbour Master may cause a notice to be served to the person in charge and the license thereof to be cancelled."

The Fisheries regulations prohibits fishermen whose boats are licensed for fishing purposes to indulge in the carriage of passengers without the relevant permit, while the Harbour Master possesses the authority to withhold the movement of any vessel which, by reason of its activity endangers the lives of its passengers or other users of the sea. Under this Ordinance, a vessel includes any stage, launch, flat, passage boat, gig, jolly boat and any other boat or craft.

What then seems to be needed is greater vigilance through patrols at sea. On land, trained supervising agents deployed at boarding areas and departure points with sufficient authority to act so as to deter those who seek to defy the laws of maritime safety.
An important factor to be considered and examined is the commitment of the individual to the task at hand. Even though the laws are there, the will to carry them out modestly but firmly must be a part of the individual's resolve bearing in mind that at times he comes close to infringing on the constitutional rights of the recipient of his investigation. Under such circumstances, only supportive law and personal dedication can overcome the opposition which he must, of necessity, arouse.
CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Without prejudice to the efforts on the part of the relevant training organisations, and the Maritime Administration, the foregoing represents an attempt to provide a stimulus through disclosure whereby a more concerted effort could be made to emphasise the importance of safety and survival training for sea-going personnel. There is little doubt that in all activities involving the movement of small craft and personnel, a certain degree of emphasis is always placed on this training aspect. Nevertheless there is evidence that the extent to which the goals have been achieved, although not capable of being measured except through statistics, falls short of the ideals of a Maritime Administration whose aim must be, at all times and without preference, the elimination (though seemingly impractical) of all maritime casualties.

The degree of achievement depends upon a number of factors, but especially upon the consciousness that a problem does exist. Therefore, it is to be expected that there would be established a working group whose function it would be to identify the "whys" and "hows" and set out to make good the deficiencies in the existing system.

It is undeniable that training is the basis upon which any progress can be made. However, such training can only be effective if the level of awareness is such that there will be a demand for it. Since there is no National Law which makes it training and certification
mandatory for fishermen and small craft operators, the motivation must be so much more impressive and the incentives greater. There can be, of course, no greater incentive than the protection of one’s life, but human nature being what it is, the old axiom that, "it will never happen to me," often negates the willingness to expose oneself to proper tuition.

As mentioned earlier, while loss of life and property in Trinidad and Tobago due to maritime incidents is not at any level which may be termed alarming, the loss of a single life is sufficient for the relevant authority to take remedial action. One of the most obvious deficiencies is the absence of appropriate legislation. At the International level matters of maritime safety and training are provided for in the International Maritime Organisation Conventions such as SOLAS 1974 and COLREG 1972 and soon, hopefully, the Torremolinos Convention. National legislation incorporate some of the laws of these Conventions which are pertinent to their own requirements including those to which they are not a Party.

Trinidad and Tobago has ratified both the Safety of life at Sea (SOLAS) and the anti-collision regulations Conventions, and aspects of these two have been incorporated into the Shipping Act no.24 of 1987. However, the Shipping Regulations (Registration of ships) relating to this Act, while they provide for the LICENSING of ALL ships except those cited in Section 40(a) and (b) of the Act (see Chapter 5, section 5.1 of thesis), they do NOT provide for the REGISTRATION of ships under 24 metres in overall length. The Fisheries Act provides for the REGISTRATION of
boats used specifically for the purpose of fishing. The supporting regulations concentrate solely on the functional aspect (fishing) with little regard to the safety aspect. Such a situation, seemingly a social one, is not unique to this State, and may in part be due to the localisation of efforts of the fisherman, his individuality, and lack of perception of the Authorities with regard to his value in the society. Nor is it a desirable one.

Notwithstanding the above, recent indications are that there is an evolutionary change taking place at Governmental levels with regard to the social commitment towards the fishing community, and hopefully toward his safety in his trade.

What is perhaps needed are specific laws concentrated on safety, quite apart from those which may be now mere suggestions, with the necessary means to control the activities of the small craft from key areas from which they operate. The difficulty of effective implementation does not escape the attention of the Author, but even among the fishermen themselves and/or their families, there exists the feeling that the main concern of the Authorities is their catch and not themselves. Of course, what makes the task a difficult one (of control, that is) is the very nature of the trade where one, on impulse, can either buy a boat or borrow one, and put to sea without the slightest professional knowledge of what he is unwittingly exposing himself and sometimes others to. This could be one of the main problems of control, and no system, in the opinion of the Author could be set up to cover adequately, if at all, this deficiency. A possible approach to remedy these short comings would be

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(a) to educate 'bona fide' fishermen in the perils they face at sea, a situation which most of them would already be aware of through experience.
(b) to get them involved in playing their part in the saving of lives by NOT allowing their boats to be used by any other than another professional as themselves, and
(c) by the State enacting such laws and penalties such as confiscation of property (the boat itself) when registered fishermen act in contravention to (b) above.

The question would then arise as to the means of determining the 'bona fide' fishermen from the rest, while the suggestion as mentioned above would seem to discriminate against the individual who seeks to fish for pleasure. In the first instance, the condition of the 'bona fide' fisherman can be settled by having the individual certified through tuition and examination, carried out by the appropriate training establishment. He is then registered as such. Next, his purchase of a boat can only be accepted if he is certified as a fisherman, the boat itself being registered. Under an "Act of Law" such a vessel may only change ownership between one certified owner and another such person. While this does not provide the ultimate solution to the problem, if carried out diligently, it could effect some measure of control.

Presently there exists within the Fisheries division of the Ministry of Food production, Marine exploitation Forestry and the Environment an application form for voluntary registration and issue of a certificate as a fisherman. (Appendix G.) This application does not require as one of its stipulations training of any sort,
while it does provide the individual with authority to pursue his trade based merely on recommendation without any reference to his capability. Without casting any aspersions with regard to the integrity of the officers concerned who may be merely following instructions, it does give leeway for persons not suitable to be classified as "bona fide" fishermen. And the fact that most have survived through their own violation and experience is no argument to negate the need for training which may have, even among them, saved themselves from unpleasant incidents at sea. (c.f. recommendation 14.)

The individual who fishes for pleasure presents the problem of periodicity. The control of his activities can only be carried out by a law which, for instance, must stipulate his being at sea only in the presence of a "bona fide" fisherman, or any such person duly qualified to take a boat to sea. Within this category of "duly qualified" would fall persons who have obtained training from the existing training school (C.F.T.D.I.), sat and was successful in any examination supervised by the Harbour Master's Office or a body duly appointed by him, and/or the Coast Guard, and personnel of the Unit itself.

With regard to the movement of pleasure craft, the problem of control through Legislation seems to be a social and political one. Social in the sense that most pleasure craft owners being more or less members of the affluent society, they do not see the need for them to be harnessed by rules and regulations which may cause infringement on their privacy, and would in effect give to those delegated to implement these laws, the authority to stop, board and possibly cause to be
apprehended. Since no law enforcement agency of any society enjoys extensive popularity, they reject the idea of legislative control through their political affiliations in its entirety. This is very much to be regretted, because the Author as a retired Coast Guard Officer has witnessed many living examples of gross ignorance and a complete lack of knowledge of the very fundamentals of seamanship, navigation and rules of the road, which under any conditions of stress would place the entire company and other users of the sea in fearsome jeopardy.

Regrettably the state of maturity necessary to appreciate the wisdom of sea training is sorely lacking in a large percentage of the sea-going population. The Administration cannot rest on the premise that a few lives lost out of many thousands of forays seaward by small craft is an acceptable occupational hazard. Nor must it await a disaster of enormous proportions to hasten the completion of a policy already begun with the proclamation of the Shipping Act No 24 of 1987, regarding the safety of users of ALL small craft.

Finally the implementation of rules of safety must not be left to associations and boating clubs which have no force of law to support their dictates. Rather these very associations, if they have the welfare of their members at heart, should be the ones to take the initiative in propelling the Authorities with respect to National Maritime safety.

Certainly it would be a psychological step in the right direction to incorporate their members as apart of the National Search and Rescue Organisation in a formalised manner as an auxiliary unit. The effect of this
would be training in the relevant techniques, experience with those who have been in trouble, and by observing their deficiencies, correct their own so as not to become the next statistic.

RECOMMENDATIONS

1. The Harbour Master’s Ordinance has two main deficiencies:
   (a) It is, of necessity, limited in its area of jurisdiction.
   (b) Its stipulation as to the equipment required for safety and survival is inadequate to meet the needs of all types of maritime-related accidents.

   The Fisheries Act concentrates on the production aspect of its small boats fleet, and pays little attention to the safety aspect of its occupants.

   There are two methods which may be adopted to provide a working solution for the safety of small craft referred to herein. The first is
   (a) To provide regulations for the operation of pleasure craft of less than 24 metres in length.
   (b) To provide additional clauses to the Fisheries Act and regulations with specific reference to mandatory safety gear to be carried on board any fishing craft under way.
   (c) To update and modify the Harbour Master’s Ordinance with a similar aim as proposed in (b) except that it will apply to ALL craft operating within the limits of the harbour.

   The second approach is in the form of an Act called
the "Safety at sea Act" similar to that provided for by the British Maritime Transport Division to be promulgated for ALL small craft regardless of their function. The primary administrative responsibility of this Act being vested in the Maritime Directorate of the Ministry of Works and Infrastructure which is being envisaged, and the main operational supervision of the activities of these craft being delegated to the sea-going arm of the Defence Force, (Coast Guard) supported by the Marine Police and the Harbour Master's Division.

Manned by suitably qualified personnel, the Maritime Administration would be in place to conduct the business of maritime matters adequately.

2. Any regulations which are required must include the following:
   (a) National registration of all pleasure craft.
   (b) An age limit for the operation of power boats above a certain horse power.
   (c) A certificate showing some degree of competency which will permit a person to operate such craft.
   (d) Minimum requirements for safety and survival equipment which must be carried on board, both for fishing boats and pleasure craft.
   (e) A clear and precise policy for the operation of the enforcement agencies, with well-defined parameters of jurisdiction.

3. A much greater degree of supervision of craft which carry passengers with special emphasis on the prevention of over-loading, the amount and quality of safety gear and survival equipment on board. This supervision must be done by qualified personnel placed at sites of embarkation, and must include the prevention of unlicensed
operators or fishermen "off duty" carrying passengers for payment.

4. It should be made compulsory that the operator in legal pursuance of his trade, having followed a specified course, must display with a photograph of himself his certificate. Then passengers, aware of this stipulation, would be in a position to refuse service, and the operators to lose same if they were deemed to constitute a risk to those travelling.

5. The Fisheries Administration presently and the Maritime Administration in the future should provide and maintain a sufficient body of expertise within the department to deal specifically with the occupational safety of fishermen operating in small boats. Existing Conventions deal with merchant seamen, while the Torremolinos Convention relates to fishermen serving on trawlers in excess of 15 metres in length. Reference may be made to the British Merchant Shipping Notice No. M1311 issued by the Department of Transport and entitled "Emergency Position Indicating Radio Beacons, float-free arrangements for life rafts and for life jackets on fishing vessels." The following is an extract from that document:

"The fishing vessels (life saving appliances) Regulations 1988 were made on 18th January 1988. These Regulations give effect to the provisions of the Safety at Sea Act concerning emergency position indicating radio beacons (EPIRBs) for fishing vessels of 12 metres or more in length, and life jackets to be carried by fishing vessels of less than 12 metres in length.

**EPIRBs**

The regulations require that fishing vessels of 12
metres or more in length MUST carry a type of 406MHz EPIRB which meets the Department’s approval. Although there is no mandatory requirement for EPIRBs to be provided for boats of less than 12 metres in length, the Department continues to recommend that they should be provided in such vessels.

**LIFE JACKETS AND LIFE JACKET LIGHTS**

The Regulations bring in a requirement for fishing vessels of less than 12 metres in length to carry life jackets acceptable to the Department as follows:

One adult life jacket for each adult carried, and the vessel should carry one spare life jacket of that size. In addition, if there are children on board, there should be carried one child’s life jacket for each child carried, and if so, there should be carried one spare child’s life jacket. Each of the jackets referred to must be fitted with a life light, which again must be to the approval of the Department.

**PENALTIES**

The Regulations also state the penalties for the owner and the skipper of the vessel for not complying with the requirements." (end of extract.)

In Trinidad and Tobago, regulations for the carriage of certain types of life-saving gear, in particular life jackets of a standard type approved by a competent authority and life rings should be made compulsory for all craft which are here under discussion.

In the event of an accident, it should be a mandatory requirement that a report on the incident be forwarded to the appropriate authority through a reliable system
whose function it would be to assess the report, identify the causes and where possible take or initiate remedial action.

6. Fishing Cooperatives should become more active in seeking after the welfare of the fisherman, and include in their duties the social welfare of their members and their families especially in the field of accident and death benefits, credit union facilities etc. As an incentive, the State may pick up at least a part of an insurance bill, for the trained registered fisherman.

7. Presently the inspection of fishing craft as defined in the Fishing regulations is limited to the time of initial purchase. In effect this means that during the life time of the vessel where the owner has not changed and even if he has, there is no further inspection to determine the seaworthiness of the vessel, or whether there has been any alteration of the initial specifications under which it was initially purchased. Further to the recommendation of a periodic inspection, such should include an inspection of safety and survival equipment carried on board as required by predetermined law.

Reference may be made to the following extract taken from the Nautical Magazine, February '88 volume 239, no.2, entitled "Preventing Small Craft from Becoming a Danger to Navigation." It reads as follows:

"One of the more important features of the new Aberdeen Harbour Confirmation Act 1987 is that powers are given to the Harbour Master to direct that vessels of less than 10 metres in length must produce a certificate of seaworthiness signed within the previous year by a marine surveyor having qualifications acceptable to the Board. The intention is to ensure that small craft kept
in Aberdeen harbour do not become a danger to navigation, and are kept in sound seaworthy condition....."

8. Bearing in mind the importance of communication in times of distress, and the increased probability of loss of life through delay in initiating search and rescue operations, the Administration should make adequate representation to facilitate the purchase of basic receiving and transmitting apparatus e.g. Citizen Band sets at reduced cost and without the necessary red tape, such equipment being used only for the purpose for which it was intended. In a like manner, all safety equipment should be made available for purchase at subsidised prices for those in pursuit of fishing by profession.

9. Both Government departments and private companies which are involved in maritime transport should ensure their personnel are fully tutored and/or qualified to operate their small craft and that the safety standards on board are maintained through regular inspection.

10. Maritime education and training should be introduced in the Vocational schools, with special emphasis on safety and survival at sea.

11. With respect to the lack of sufficient information to effectively mount search and rescue operations, this has been the greatest dilemma of the SAR Unit. In order to alleviate this, the siting of a reporting agency or source in specified areas within close practicable proximity to departing stations, to which information regarding times of departure, destinations etc. be set up. In the event of a report, the person or agency will be responsible for providing accurate information to the SAR
coordinating centre, thereby reducing uncertainties. This will eliminate the need for the Unit to rely on data from unofficial sources, which may be inaccurate, and cause delay in the commencement of operations.

12. Provide a network of bearing stations along the coast capable of monitoring Citizen Band transmissions, or the transmissions of any equipment available to small boat operators.

13. It is always advisable that boats should be painted in bright colours. The rationale behind this is based on the fact that an overturned boat painted red at the bottom, or the inside of an open craft painted orange is much easier seen during an aerial search. For the same reason life rafts, life belts, rings and jackets are orange in colour. Similarly cabins painted in white, contrast against the dark background of the sea with the same effect.

14. The voluntary certificate referred to in paragraph three page 75 should be made compulsory for practising fishermen without proof of training, while training should be made compulsory from the year 1990.
THE first body... under a coconut branch

BODY ON THE BEACH

DEAD bodies are no longer a strange sight on beaches in the Toco area.

Last weekend, for example, two fishermen drowned while returning from a fishing trip.

Stephen "Taber" Alphonse, 21, and 28-year-old Francis Scott, drowned off Penzance Bay after a wave tossed their boat onto jagged rocks and smashed it to pieces.

Their companion, Holis Day, was the only survivor of the boat crash. He is a strong swimmer.

Toco residents told Newswatch that Coast Guard authorities should do something to save fishermen from themselves in the area.

One villager, Kelvin Thompson, told Newswatch: "It is no secret that the waters were very bad for fishing on Saturday afternoon, and these men should not have gone to sea at all.

"Someone should have the authority to refuse permission to anyone to put to sea when the weather is not good.

"At present, this is not the case because anyone can just jump in a boat and go their own thing.

"Sometimes people come here and get out to see with fishing line and nothing for use in an emergency.

"If they ever get into serious trouble, it's a straight case, curtains for them.

"It is clear that the man in charge (Alphonse) did not know what he was doing.

"If something is not done to arrest this situation of every man for himself, we will always have people jumping into boats here and never returning.

"Maybe the Coast Guard can get itself involved.

"Someone has to save these people from themselves."

SOURCE: News-watch
DATE: 13th July 1984

SIX persons were yesterday rescued by members of the Trinidad and Tobago Coast Guard and the National Security Ministry when the engine of their pirogue malfunctioned off the North Coast.

The Coast Guard reported that a National Security Ministry helicopter was in the area when they spotted the boat's occupants: Krishna Joseph of Boisierre Village, Maraval; Rennie and Kumar Bagratty, Solo Kumar, Rohan Keil and Bonnie Maysingh of Diego Martin, and radioed the Coast Guard for further assistance.

They told the Coast Guard they left Hodgkinson Bay, Gasparie Island, in their pirogue earlier yesterday to go on a fishing expedition. On the way, the engine broke down and they began to row until the helicopter appeared.

The Coast Guard used the Tropic Mariner to bring the vessel in low to Stables Bay after which it was taken to Gasparie Island. All six persons were all taken safely back to the island. They required no medical attention.

The pirogue had no distress signals on board.

Trinidad Guardian
5th September 1984
Search for seafarers cost Govt about $1m.

By FRANCIS JOSEPH

THE FOUR-DAY search undertaken earlier this month for five drowned pleasurboaters in the Gulf of Paria has cost the Trinidad and Tobago Government almost $1 million.

Lt. Commander Knolly Rimple, Operations Officer of the Trinidad and Tobago Coast Guard, said yesterday that an air and sea search for missing persons was a very costly exercise.

But he said Government and the Coast Guard were committed to this exercise. "Don't get me wrong, we are not looking at the cost factor, but we just want to let the public know how costly such an exercise would be."

Stressing the importance of air and sea search and rescue operations, Lt. Commander Rimple said the exercise carried out from September 3 to 6 for the five missing men cost government close to one million dollars.

In that incident, the bodies of the five men were found by September 6 in the Gulf of Paria.

FANTASTIC SUM

In that search, Lt. Commander Rimple said, four Coast Guard ships were used along with personnel, a helicopter from the Ministry of National Security and there were fuel and maintenance costs.

"Each time you ask for a helicopter, you get a pilot, a crew of three for at least five hours a day. No one really has an idea what is the rate of a helicopter pilot.

"Take, for instance, one of the Coast Guard's 48-metre vessels. It has a crew of 30 on board. The fuel consumption for one of these boats amounts to a fantastic sum.

"The Coast Guard, other Government agencies or the Government are not looking at cost, but we want the public to know what it takes for a search."

Lt. Commander Rimple, as an example, said that Douglas Bain left San Fernando in his speedboat for Port-of-Spain, but he never arrived. "The San Fernando auxiliary fleet carried out a search and you can imagine what it costs only for fuel, not the rental of equipment or anything else, just fuel."

The Coast Guard official said the search for the five men took four days. But he said there were other searches which took much longer.

In May, Lt. Commander Rimple said, two fishermen left Las Cuevas and were later reported missing. "They were never found, but their boat was found overturned somewhere off Chachachacare.

In that same month, another two fishermen were reported missing, and they have not been found. According to Lt. Commander Rimple, the search has not stopped for these men.

"It doesn't say if you don't find people, you stop the search. With the Government agencies, the Coast Guard, Police, helicopter, medical units etc., you can see why it is a costly exercise."

"We don't look into that. it is not in our books." But Lt. Rimple said the Coast Guard would like to monitor the movement of seafarers.

"Sometimes people would tell us where they are going and when they are expected to arrive. If they feel something may happen to them, they let us know. We can keep a lookout for them during our patrols.

"If we can get people to do such things, if they give us the right information, the chances of finding them will be greater and the cost.

SOURCE: Trinidad Guardian
DATE: 5th September 1985
Air-sea search for missing speedboat

By EVANS K. GREENE and DAVID MAYNARD

AN AIR/SEA search and rescue operation involving the Trinidad and Tobago Coast Guard boats and its fixed wing light aircraft, together with the Ministry of National Security's three helicopters has been mounted for the speedboat "Long Shot" with two souls aboard, missing during Thursday's Great Boat Race from Trinidad to Tobago.

The boat, sailing under the captaincy of Wayne Alexis of Rómeo Street, St. James, with crewman of Earl Thomas of Pearl Parkway, Diamond Vale, disappeared in choppy waters between the turn-off point at Grand Riviere and "Shallows", which is about ten miles from Trinidad's North Coast, and ten miles from Crown Point, Tobago.

"Long Shot", equipped with a 350cc engine, was reported as a late starter for the Emancipation Day (August 1) 17th Great Race to Tobago.

Shortly after correcting early problems at the starting line, the boat developed further problems in the First Boça and moored alongside another broken down boat "Concord".

The problem was quickly solved and the boat set off again, overtaking several boats until near the turn-off point at Grand Riviere the boat experienced its third break-down before heading again for Tobago but never reached there.

"Long Shot" was last sighted at 9 a.m. and when at 10 a.m. when all boats should have reached Tobago and it was not seen, an alert was immediately sent out.

UNACCOUNTED FOR

"Long Shot", which is kept at Basil Duprey's yard at Point Cumana, was last seen during a ding-dong tussle with another AJR, a Production I boat, after the Grand Riviere turn-off.

The two had just cleared the last turn where "My Love," owned and captained by Cecil Ferdinand, was the marker. Then Shot then had an engine failure and broke down at ten degrees west.

The Coast Guard was alerted around 10 a.m. on Thursday when officials of the Powerboat Association reported "Long Shot" as "unaccounted for".

"Long Shot" holds some 50 gallons of fuel and is owned by Brian Bommar of Diego Martin.

This is so far the most extensive search carried out after a Great Race, officials indicated. "One Zee" went off course and headed for Grenada in 1951 when a National Security helicopter had to assist in refuelling. The boat returned two years later to win the race in two hours and four minutes.

"Black Max" the 1979 winner went towards Toco and was directed back on course before finishing. A year earlier, "Bold Gold" owned by Lennox Tan Yuk, sank alongside a Coast Guard boat off Grand Riviere and was never retrieved.

There was also an incident last year in which a boat was heading toward Africa during a fishing tournament.

It is understood that the two men did not eat before leaving their homes, neither did they carry with them any drinking water.

It was reported that if there were a fourth breakdown which the two men could not handle then the boat could have drifted in the current and could even reach Grenada.

Trinidad and Tobago Coast Guard officials have alerted the Venezuelan and Grenada Governments to assist in the search operation.

Aircraft en route to Trinidad have also been alerted to be on the lookout for the ill-fated boat.

It is understood that an "all ships" broadcast has already been made by the Trinidad and Tobago Coast Guard.

FOOT-NOTE...LONG-SHOT WAS FOUND WITH ITS TWO OCCUPANTS ALIVE THREE DAYS LATER APPROXIMATELY 75 MILES NORTH-WEST OF TRINIDAD.
Hope fades for missing five

from PAGE 1

them it was eight of us in the water and they started to search for the others," Gidarree said.

He said the group left home around 19 a.m. and met the boat at Power Boats in Chaguaramas following which they set out for the fishing expedition.

Gidarree said they had been inside the boat for one hour before the incident occurred. Questioned further, Gidarree said the vessel had no life jackets or life saving equipment.

The men are not fishermen, we really came out here to lime. We lived like a very close family because we are always together. At least once a week, we come out to sea to fish. We normally catch fish," he said.

Gidarree said when he was rescued, he had a cramp in his right leg. One thing he said attracted him while he was swimming to safety was the number of small sharks passing near to him.

"But they didn't attack me, thank heavens. When I was swimming, I had to stop and pause because of the current in the sea," Gidarree stated.

Lt. Commander Knolly Rimple, Operations Officer of the Coast Guard, said vessels from the Coast Guard had been on the ball from the moment the report was made.

He said the National Security helicopter was due to assist late yesterday in searching for any survivors. He told reporters if the men drowned, their bodies were sure to surface within 35 to 45 hours.

Lt. Commander Rimple said the Harold La Borde was about to leave for Pointe-a-Pierre when crew members spotted people in the water.

He said the rescue vessel didn't inform the Coast Guard immediately, but after the third survivor was picked up. The incident occurred near to the wreck of the Jura which sank in 1974.

Both Lt. Commander Rimple and Coast Guard Commander Jack Williams are still trying to convince the boating public that it was necessary to have life saving equipment in the boat.

"A small piece of styrofoam could save your life," Lt. Com. Rimple added. He revealed that four fishermen missing since May and June have not been found to date and the files were still open.

3 fishermen rescued after boat capsizes

STAFF REPORTER

FOR the first time in the 20 years that he had been going to sea, Bree- me Laloo went out to fish on Tues- day with no life jackets aboard his 28-foot pirogue.

As fate would have it, it was also the day that his boat was hit by a huge wave, flooded and capsized, and Laloo, his son, Rafael, and a friend, Francis Tiokeee, were thrown into the water.

Yesterday the 45-year-old man and the two others who had been aboard the wooden pirogue, "Can- dicio B" were resting comfortably at home with only slight bruises following the accident.

Laloo, of Superville Quarry Road off St. Lucia Road, Diego Martin, his 15-year-old son and Tiokeee had left the Aican docks around 6 a.m. on Tuesday morning to fish in the Gulf of Paria. They were between Carrera and Nelson Island around 11 a.m. when a huge wave came from "out of nowhere" and hit the boat, according to Laloo.

"I manage to move a little way before more water came into the vessel, and swamped the boat, stilling the engine in the process," Laloo said. "I knew the boat would turn over at any time so we tied a rope to it and luckily we were able to do so quickly because it did turn over fast."

The plight of the men was noticed by prisoners on the nearby island of Carrera who informed the guards there. The prisoners boat was then sent out to pick up the men, who by then had been in the water for about half an hour.

"It's a good thing we are all good swimmers," Laloo said yesterday. "But unfortunately we did not have life jackets. As a man who has been going to sea for more than 20 years I know we should have had them: we always carry life jackets, in fact, but for some reason when we were packing on Monday night we forgot to include them. Don't worry though, that mistake will never be made again."

The prison launch contacted the Coast Guard which also went to the scene and towed the "Candidio B" to the Coast Guard headquarters at Cha-guaramas where they were able to flush out Laloo's engines for him. The boat owner expressed special thanks to Coast Guard Officers Williams, Noel and Mohammed for their assistance.

Laloo, who is an ardent Citizens' Band operator (and better known on the airwaves as "Dr. Max") was also able to recover everything from his boat except his valued CB set.

His first accident at sea in 20 years hasn't left him too worried, though, and Laloo says he will be "going out" again soon and this time definitely with life jackets, which he insists no swimmer should ever be without.

SOURCE: Trinidad Guardian
DATE: 10th October 1985
APPLICATION FOR VOLUNTARY REGISTRATION AND ISSUE OF CERTIFICATE AS A FISHERMAN

MINISTRY OF AGRICULTURE—FISHERIES DIVISION

TO THE SENIOR FISHERIES OFFICER,
ST. CLAIR, PORT-OF-Spain

I hereby apply for voluntary Registration and the issue of a Certificate as a Fisherman and certify that the following particulars about myself are true and correct:

1. Name: ...........................................................................................................

2. Residence: ...................................................................................................

3. Date of Birth: ................................ Place of Birth: ..................................

4. Description: (Two Passport Photographs signed by the N.C.O. of Police to be included)
   Height: .......................... Weight: .......................... Colour of Skin: ............
   Colour of Hair: .......................... Colour of Eyes: ..........................
   Distinctive Marks: ..........................................................................
   Any other Distinguishing Characteristics: ..................................................

5. Previous place(s) of residence during the past five years:
   ..........................................................................................................

6. Boat owner or share fisherman: ..............................................................

7. Fishing Beach: ..........................................................................................

8. Any other occupation besides fishing: ....................................................

Date: .......................................................... Signature of Applicant or his mark

TESTIMONIAL

I certify that ................................................................. is a bona fide fisherman, whom I have
known for ............... years, and the above particulars are to the best of my knowledge and belief
true and correct.

Trinidad and Tobago Id. Card No.: .........................................................

N.B.—To be signed by an officer of the Fishing Industry Association (in the case of a member of the Association) or by an N.C.O. of Police and a well-known resident of the district in which the fisherman lives (in the case of a non-member).
# SAR CASE FILE

## Trinidad and Tobago Coast Guard SAR Co-ordinator

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Known contacts/other info

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