



**CARICOM FISHERIES RESOURCE ASSESSMENT AND MANAGEMENT
PROGRAM BASELINE SURVEY OF FISHERIES DIVISIONS IN
PARTICIPATING COUNTRIES**

by

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ABSTRACT

This document describes the CFRAMP Baseline Survey of Fisheries Departments in participating countries, carried out in order to determine the extent of their activities in a number of areas relating to fisheries research and management. These include: Legislation and regulations; status of fisheries management plans; structure, organisation and function of the department; research; extension programs; statistics and data collection systems; availability of information; regional management mechanisms; and gender issues.

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1. INTRODUCTION

The CARICOM Fishery Resource Assessment and Management Program is a regional Program, designed to be implemented over eight years through the Caribbean Community and Common Market (CARICOM). The Goal of the Program, as detailed in the Management Plan is to promote the management and conservation of fishery resources of CARICOM countries, and to permit exploitation of these resources on the basis of sustainable yield. The purpose of the Program is to enhance the basic information and institutional capacity necessary to manage and develop fishery resources in the CARICOM region. Specifically the Program will:

- Strengthen fisheries management structures and improve management capabilities and technical expertise within CARICOM through training and advisory assistance
- Provide information on fishery resource abundance and availability for management purposes within CARICOM
- Define and establish a suitable regional fisheries management advisory mechanism.

The Program is principally designed to target fisheries management institutions of the CARICOM region: national fisheries divisions; and regional research and management institutions such as the CARICOM Secretariat, the University of the West Indies and the Fisheries Unit of the Organisation of Eastern Caribbean States (OECS).

In order to permit an evaluation of the impact of the Program, a baseline survey with three components has been undertaken. These are described in the Management Plan, and are: a Fisheries Division Component, and Institutional Component, and a Community Component.

For the Fisheries Division Component of the Baseline Survey, a questionnaire, consisting of nine sections was administered to the Chief Fisheries Officer, or equivalent, in each of the twelve participating CARICOM Member States. A variety of supporting materials was also requested. The actual responses from all the participating countries were compiled onto a master questionnaire (Appendix 1). The body of this document compiles and summarises the findings and attempts to generalise and draw conclusions regarding the status of fishery assessment and management in CARICOM Member States. It should however, be noted, that there are many gaps and inconsistencies (see Section 11.1). The major section headings in this report are the same as those in the questionnaire, and the questions which are being summarised in each subsection are italicised at the beginning of the section.

The following abbreviations are used throughout the report.

ANT = Antigua/Barbuda
DOM = Dominica
JAM = Jamaica
SLU = St. Lucia

BGI = Barbados
GRN = Grenada
MON = Montserrat
SVG = St. Vincent/Grenadines

BEL = Belize,
GUY = Guyana,
SKN = St. Kitts/Nevis,
T&T = Trinidad/Tobago

NA = Not applicable

NR = No Response

2. LEGISLATION AND REGULATIONS

The objective of this section is to determine the current status of the legislative and regulatory framework governing fisheries in CARICOM Member States.

2.1 Fisheries Acts

- *What act or acts provide legislative authority over fisheries?*
- *When did the legislation come into force?*
- *Does the legislation authorise preparation and implementation of fisheries management plans?*
- *If so, is this a discretionary or mandatory matter?*

The various acts passed by the participating states are summarised in Table 2.1.

2.2 Fisheries Regulations

- *Have fisheries management regulations been prepared and passed (as a package , or singly as required)? If so when? If not, why not?*
- *When were the most recent fisheries management regulations passed?*

Fisheries management regulations passed by the participating states are summarised in Table 2.2.

- *Under whose authority are fisheries regulations passed?*
- *Who decides what fisheries regulations are passed?*

Decisions on what fisheries regulations should be passed are made at the Ministerial or Cabinet level in most of the participating states. It is also the Minister with responsibility for fisheries under whose authority fisheries regulations are passed.

Table 2.1 Fisheries Acts

Member State	Legislation	Date of implementation	Authorisation of fisheries management plans	Mandatory
Antigua and Barbuda	1983 Fisheries Act	Fisheries Act, March 29th, 1984.	Yes	Yes
Barbados	Fishing Industry Act; Fisheries Regulation Act; Marine Boundaries and Jurisdiction Act; Fishing Industry Regulations	1952, 1904, 1979	No	NA
Belize	Fisheries Act (Revised, 1980), Ch. 174 Laws of Belize	Pre-1953	No	NA
Dominica	Fisheries Act No.11 of 1987 and territorial sea (etc) No.26 of 1981	June 28th 1987 & Sept 10th 1981	Yes	Yes
Grenada	Grenada Fisheries Act No. 15, 1986	October, 1986	Yes	NR
Guyana	Fisheries Act, 1957 and the Maritime Boundaries Act, 1977	August 3, 1957, and June 30, 1977	No	NA
Jamaica	The Fishing Industry Act; The Morant and Pedro Cays Act; Aspects of the Wildlife Protection Act	1975, 1907, 1988 respectively (latter under revision)	No	NA
Montserrat	The Fisheries Ordinance	1982	Yes	No
St. Kitts and Nevis	Fisheries Act	1984	Yes	No
St. Lucia	Fisheries Act #10 of 1984	1984	Yes, but not as a specific article or clause	Yes
St. Vincent and the Grenadines	The Fishing Industries Act; Maritime Areas Act; Fisheries Act	1975, 1983, 1986	Yes, through Fishery Advisory Committee	Yes
Trinidad and Tobago	There are several fisheries acts and other acts which pertain to fisheries. These are compiled in Fishery Info. Series #2, and the Maritime Act (vessel regulations, etc., 1987 or 1988)	Various as indicated in Fishery Info. Series #2	Yes	No

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Table 2.2 Fisheries Regulations

Member State	Regulation
Antigua and Barbuda	1990 Fisheries Regulations (proposed April, 1991)
Barbados	Fisheries Regulation Act prepared as a package (1904), last amended 1977
Belize	Statutory Instruments are passed and gazetted as needed
Dominica	Passed on Oct. 1st 1989, but yet to be gazetted
Grenada	Prepared 1987, passed September 1988
Guyana	Fisheries regulations (registration and licensing of fishing craft and fish pens) affecting the Artisanal Fishery (1954, 1959, 1969); Regulations affecting the Industrial Trawling Operations (1977); Legislation #9 affecting the operation of processing plants (1989); Maritime Boundaries (Fishery Zone, amendment) Regulations (1989)
Jamaica	Marine sanctuaries (1987); lobster season (1989)
Montserrat	Regulations prepared, as a package, are before legislative council
St. Kitts and Nevis	Prepared and awaiting passage
St. Lucia	Prepared and awaiting passage
St. Vincent and the Grenadines	Prepared as a package (1987)
Trinidad and Tobago	Prepared as required; Trawl Fishery Regulations (1989)

- *Describe the procedure leading to the formulation and passage of regulations?*

Personnel within the Fisheries Division, usually the Fisheries Officers, are responsible for formulating regulations in most of the participating states, with the exception of Jamaica, where regulations are drafted by the Legal Department. Regulations are usually formulated, e.g. in Jamaica, Guyana, Dominica, in consultation with those who would be affected by the regulation. The draft regulation is then passed to the Permanent Secretary in the Ministry responsible for fisheries. Before being submitted to the Minister, the draft may be passed to the Attorney General's office, as in the case of Belize, Guyana, St. Lucia, St. Vincent and the Grenadines and Trinidad and Tobago. The Minister submits the regulations to the Cabinet for approval and passage. The regulation is then gazetted.

- *What method is used to bring regulations to the attention of fishermen and others in the fishing industry?*

Once passed, the media (both print and electronic) and public meetings are largely used to bring regulations to the attention of fishermen and others in the fishing industry. Montserrat, St. Vincent and the Grenadines and Trinidad and Tobago also use extension staff, while a Fisheries Advisory Committee/Body is used in Belize and Guyana for dissemination of information on new regulations.

2.3 Implementation

- *Are all fisheries management regulations enforced? Which regulations are seen as the most important?*
- *If some regulations are not enforced, provide details of why not?*
- *Who enforces the regulations and what methods are used?*

In several cases some regulations are not enforced in participating states, due mainly to a shortage of manpower or other resources (Table 2.3).

- *Are monitoring and surveillance of the fisheries regularly carried out? Describe the operations?*

Monitoring and surveillance of the fishery is regularly carried out by all participating states to some extent. This is done by the Coast Guard in Antigua and Barbuda, Barbados, Dominica, Grenada, Guyana, St. Vincent and the Grenadines and Trinidad and Tobago. In St. Vincent and the Grenadines, air patrols and Regional Security System (RSS) patrols are also used. Police patrols are used in Montserrat and St. Lucia. In St. Kitts and Nevis and Jamaica, resources do not permit regular surveillance.

- *What actions (warnings, fines or other forms of punishment) are taken where violations of the regulations are discovered?*

Where infractions of fisheries regulations are discovered, warnings are the first actions taken in Barbados, Montserrat, St. Kitts and Nevis, St. Vincent and the Grenadines and Trinidad and Tobago. In addition to these, fines are levied against violators in Antigua and Barbuda, Barbados, Belize, Jamaica, Montserrat, St. Vincent and the Grenadines and Trinidad and

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Tobago. Fishing licenses may be confiscated in Belize and Jamaica, and catches forfeited in Trinidad and Tobago and Grenada. Imprisonment may also be provided for in some regulations.

Table 2.3 Enforcement of regulations

Member State	Regulation enforced	Most important regulations	Constraints on enforcement	Enforcers and methods of enforcement
Antigua and Barbuda	Yes	Overfishing, fish sizes, size of mesh and other factors affecting growth and recruitment	NA	Police, Coast Guard, gazetted individuals
Barbados	No	Turtles, sea urchins, explosives,	Insufficient manpower for surveillance/enforcement; Not a national priority compared to other crimes	Police, Coast Guard. Surveillance, arrest, appearance before a magistrate
Belize	Yes (varying degrees)	Closed seasons and minimum sizes	Shortage of manpower and transportation	Fisheries Department - Fisheries Officers, appointed Fisheries Department Officials; Police (e.g. Belize Marine Wing). Proposed Conservation Compliance Unit.
Dominica	No	Conservation of the resource	Still being discussed	Fisheries division staff; some private sector enterprises; Coast Guard. Consultation with persons who interact with resource and surveillance
Grenada	No	Fish import/export; licensing of vessels; closed seasons; harvesting of corals	Licensing of vessels is not totally enforced	Fisheries Division; Customs; Coast Guard
Guyana	No	The licensing of fishing vessels in the Artisanal and Industrial Trawl Fishery	Lack of personnel and equipment	Coast Guard - sea patrols and infrequent air patrol

Member State	Regulation enforced	Most important regulations	Constraints on enforcement	Enforcers and methods of enforcement
Jamaica	No	Those regulating destructive fishing; taking undersized or berried lobster; pot stealing	No surveillance and enforcement capability in the Fisheries Division and fisheries are low priority for the enforcement agencies	Police, Jamaica Defence Force, Coast Guard; Proposed sanctuaries will be monitored by paid wardens with boats.
Montserrat			NR	
St. Kitts and Nevis	No		Not enough staffing	Fisheries officers; Coast Guard. According to the 1984 Fisheries Act, the Minister may designate by notice published in gazette any enforcement authority including the police
St. Lucia	Yes	All	NR	Fisheries staff, police, and customs
St. Vincent and the Grenadines	No	Marine conservation	Manpower shortage, unavailability of resources (vehicles, boats). Fisheries officers do not have powers of arrest,	Police force, and coast guard with fisheries officers enforce the regulations. Cases proceed through courts of law
Trinidad and Tobago		Foreign fishing; trawling; zoning regulations; turtle regulations	Some regulations are out-of-date and/or unenforceable; lack of enforcement capability due to negative impacts on low-income, artisanal fishermen	Coast Guard (absorbed Marine Police); Customs Officers; Harbour Master; Police

- *Are the actions taken sufficient to discourage infractions? (Please specify areas where punishments have led to decreased infractions as well as areas where punishments do not deter infractions.)*

The actions taken have met with varying success. In Dominica there has been a reduction of illegal fishing by foreign vessels; in Barbados patrols have reduced poaching on sea urchins; and the purchase of sub-legal size lobsters has stopped in St. Lucia. In Belize, Grenada and St. Vincent and the Grenadines fines are enough to discourage infractions, whereas in Jamaica fines may be easily paid, and in Trinidad and Tobago discouragements are only short-term. No decrease in violations was noticed in St. Kitts and Nevis and Montserrat (where no arrests have yet been made).

- *Are reports routinely prepared about the enforcement of regulations?*

In most of the participating states no reports are prepared about the enforcement of regulations. In Belize and Jamaica, however, an annual report is produced.

3. STATUS OF FISHERIES MANAGEMENT PLANS

The objective of this section is to develop some understanding of how fisheries are managed in CARICOM countries. Of particular interest, is the history of fisheries management, how any formal fisheries management plans were formulated and implemented, and how the fisheries have changed as a result.

3.1 Preparation of existing plans

- *In what years were plans prepared and introduced?*
- *When was the most recent plan prepared and introduced?*
- *Does the plan have the force of regulation? If not, under what authority are plan measures implemented?*

Only Antigua and Barbuda, Belize, Grenada, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines responded as having some form of fishery management plan. Fisheries management plans were developed from as early as 1984 in some Member States (Table 3.1). Their main focus has been the sustainable development and management of the fisheries involved, including resource assessment. These plans, with the exception of that for St. Lucia and some parts of the Trinidad and Tobago plan, have no force of regulation.

- *What are the objectives of the current plan?*
- *How were these objectives developed?*
- *Who was involved in preparation of the current plan? How was it funded?*
- *What strategies have been adopted to achieve the plan objectives?*
- *What aspects of the fisheries does the plan focus on?*
- *Was the plan developed as part of a fisheries project funded by an external organisation? If yes, what organisation provided funding and how much funding did it provide?*

Table 3.1 Fisheries Management Plan

Member State	Year of preparation and implementation
Antigua and Barbuda	1991
Barbados	NA
Belize	5-year development plan (in progress)
Dominica	NA
Grenada	1988, 1989
Guyana	NR
Jamaica	5-year development plan (1990) Fisheries Management Plan (prepared, 1986/87; implemented, 1987)
Montserrat	5-year development plan (1988, not implemented)
St. Kitts and Nevis	FAO TCP development plan (1988, not implemented)
St. Lucia	In progress
St. Vincent and the Grenadines	Management and Development Plan (prepared by FAO TCP, 1984; implemented 1989)
Trinidad and Tobago	NA

- *Were fishers and others in the fishery involved or consulted in preparing the plan? If so, which of the groups listed below were involved and how?*

Objectives of the management plans were generally developed based on the experience of the staff of the Fisheries Divisions and through consultations with fishers and others in the industry (Table 3.2). Funding for the preparation of the plan was largely internal, however, in St. Kitts and Nevis and St. Vincent and the Grenadines the plan was developed as part of a fisheries project funded by the FAO.

3.2 Implementation of existing plans

- *Describe how the plan was implemented?*
- *What has the plan accomplished (e.g. EEZs Act, Regulations)?*
- *How has the fishery changed as a result of the plan?*

The management plans of most states are not implemented completely. St. Vincent and the Grenadines' plan is 25% implemented and has resulted in the development of cooperatives, greater awareness of conservation measures, increased fish production, improved handling and quality and improved distribution. Antigua and Barbuda's partially implemented plan has resulted in increased education and greater consciousness among fishermen, as well as a standardisation of trap mesh size at 1½"

Table 3.2 Consultation with fishers and others in fishery

Member State	Fishers' organisations	Fishers	Processors	Vendors	Exporters	Other
Belize	Personal consultation	Personal consultation	Coops	No, only via coops	Coops only	NGOs
Grenada	Cooperatives and groups	Directly	Indirectly	Indirectly	Indirectly	No
Jamaica	Jamaica Co-op. Union and various Co-ops	Yes	Yes	No	Yes	UWI and Other Government Departments.
St. Lucia	Indirectly	No	No	No	No	No
St. Vincent and the Grenadines	No	Yes (informal, individual consultation over a three year period)	Yes	Yes	Yes	Boat builders, mechanics, etc.

- *Have other factors led to changes in the fishery? If yes, what are these factors and how have they affected the fishery?*
- *What factors account for the success in meeting the plan objectives?*
- *What factors account for the failure of the plan to meet its objectives?*
- *How, if at all, has the success of the plan been measured?*
- *If you had to prepare another plan, what would you do differently?*

In lieu of the non-implementation of management plans other factors have led to changes in the fishery in Antigua and Barbuda, Grenada and Belize (Table 3.3). Areas which could be changed so as to produce a more effective plan are summarised in Table 3.4.

Table 3.3 Others factors leading to changes in fishery

Member State	Factors leading to change
Antigua and Barbuda	Improved gear and technology; increase in effort.
Belize	Declines in resource abundances; shifts to aquaculture; awareness of need for planning.
Grenada	Fish price regulations; consumers and exporters.

Table 3.4 Considerations for a new or revised plan

Member State	Considerations
Belize	Seek specified technical assistance, funding; in depth sociological, economic and biological evaluation
Grenada	Make the plan more elaborate and extend for three to five years
Jamaica	Solve problems associated with implementation
St. Kitts and Nevis	Increase staff and other resources
St. Vincent and the Grenadines	Prepare a separate plan for the Grenadines

3.3 Reasons for lack of plans

- *Why has a plan not been prepared?*

A lack of departmental resources was cited as the reason for there being no plan in St. Kitts and Nevis and Trinidad and Tobago. An absence of policy was Montserrat's reason for a lack of a plan, whereas in Dominica the necessary groundwork is to be done. In Barbados, the preparation of a management plan is awaiting finalisation of the new legislation.

- *In the absence of a formal plan, how, if at all, are management measures developed and implemented?*
- *What local, national and regional factors are taken into account in developing management measures?*

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- *What management measures are now in place to regulate the fisheries (please provide details)?*

In the absence of a formal plan a number of management measures have been developed based on several local, national and regional factors. These are summarised in Table 3.5.

Table 3.5 Management measures

Member State	Management measures	Factors considered
Barbados	On an individual resource basis (e.g. sea urchins in which the closed season was extended, based upon research recommendations, by an amendment to the Act.)	Legislation in neighbouring countries, Ministry policy, biological research, socio-economics of the fishery.
Dominica	Constant consultation and dialogue with users of the resource is maintained. Problems and concerns of users are addressed, with a commonly agreed solution, backed up by technical advice.	Traditional uses and users, cultural implications, and regionally agreed positions and policies.
Grenada	Fishery centers are directly administered by the Fisheries Management Unit. Regulations are being administered on a daily basis.	Institution and budget support; fishermen's groups; vendors; vested interest in marine reserves, etc.
Montserrat	Based on an annual work program, an operational plan is created. The main purpose is to increase local production. There is primarily a development focus.	Needs of fishermen, type of financial support (Divisional budget), OECS regional initiatives.
Trinidad and Tobago	Within the context of acts - Cabinet decisions and of regulations. Basis of perceived need by Fisheries Division. In response to fishing agreements.	Bilateral fishing agreements.

4. STRUCTURE, ORGANISATION AND FUNCTION OF FISHERIES DEPARTMENTS

The objective of this section is to gain some insight into the structure and operation of the fisheries departments of CARICOM members. The main aspects of interest are organisational arrangements, staffing levels and training.

4.1 Structure and staffing

- *What is the correct title of the fisheries department?*

The correct designations for the fisheries departments of the Member States are summarised in Table 4.1.

Table 4.1 Titles of fisheries departments

Member State	Title of department
Antigua and Barbuda	Fisheries Division
Barbados	Fisheries Division
Belize	Fisheries Department
Dominica	Fisheries Development Division
Grenada	Fisheries Division
Guyana	Fisheries Department
Jamaica	Fisheries Division
Montserrat	Fisheries Division
St. Kitts and Nevis	Fisheries Division
St. Lucia	Department of Fisheries
St. Vincent and the Grenadines	Fisheries Division
Trinidad and Tobago	Fisheries Division

- *Describe the place of the fisheries department in the government structure.*
- *To whom does the department head (Chief Fisheries Officer) report?*

In all Member States with the exception of Trinidad and Tobago, the fisheries department is within the Ministry responsible for Agriculture. In Trinidad and Tobago it falls under the mandate of the Ministry of Marine Food Production and Exploitation. In most of the Member States the department head reports to the Permanent Secretary. In Montserrat and St. Kitts and Nevis, however, the head of the fisheries department reports to the Director of Agriculture.

Staffing

The organisational structure of the Fisheries Departments is shown in the organisation charts in Figures 4.1 - 4.12.

- *What has been the annual employment level of the fisheries department for the past five years?*
- *What factors account for the changes in staff numbers in headquarters and in the field?*

Figure 4.13 shows the annual level of employment of the fisheries departments for the past five years. Low/unattractive salaries were cited as a major factor in the loss of staff in Antigua and Barbuda, Guyana and Jamaica, whereas workload was the main factor in St. Lucia. Conversely, there was an expansion in the fisheries program in Belize, Barbados, Trinidad and Tobago and Dominica.

- *Which positions are the most difficult to fill with qualified personnel? Explain why for each position?*
- *Which of these vacant positions are regarded as critical from the perspective of departmental operations? Give each position and the reason why it is critical.*
- *How is the functioning of the department affected by the vacancies?*
- *Are there any areas of responsibility which the department is currently unable to carry out because of staff shortages?*
- *What steps are being taken to recruit or train personnel to fill vacant positions?*

Despite advertising and attempts to attract recent graduates, a number of positions remain vacant in most of the fisheries departments (Table 4.2). As a result of these vacancies several constraints have been placed on the functioning of the fisheries departments. Some staff are being trained to fill the vacancies.

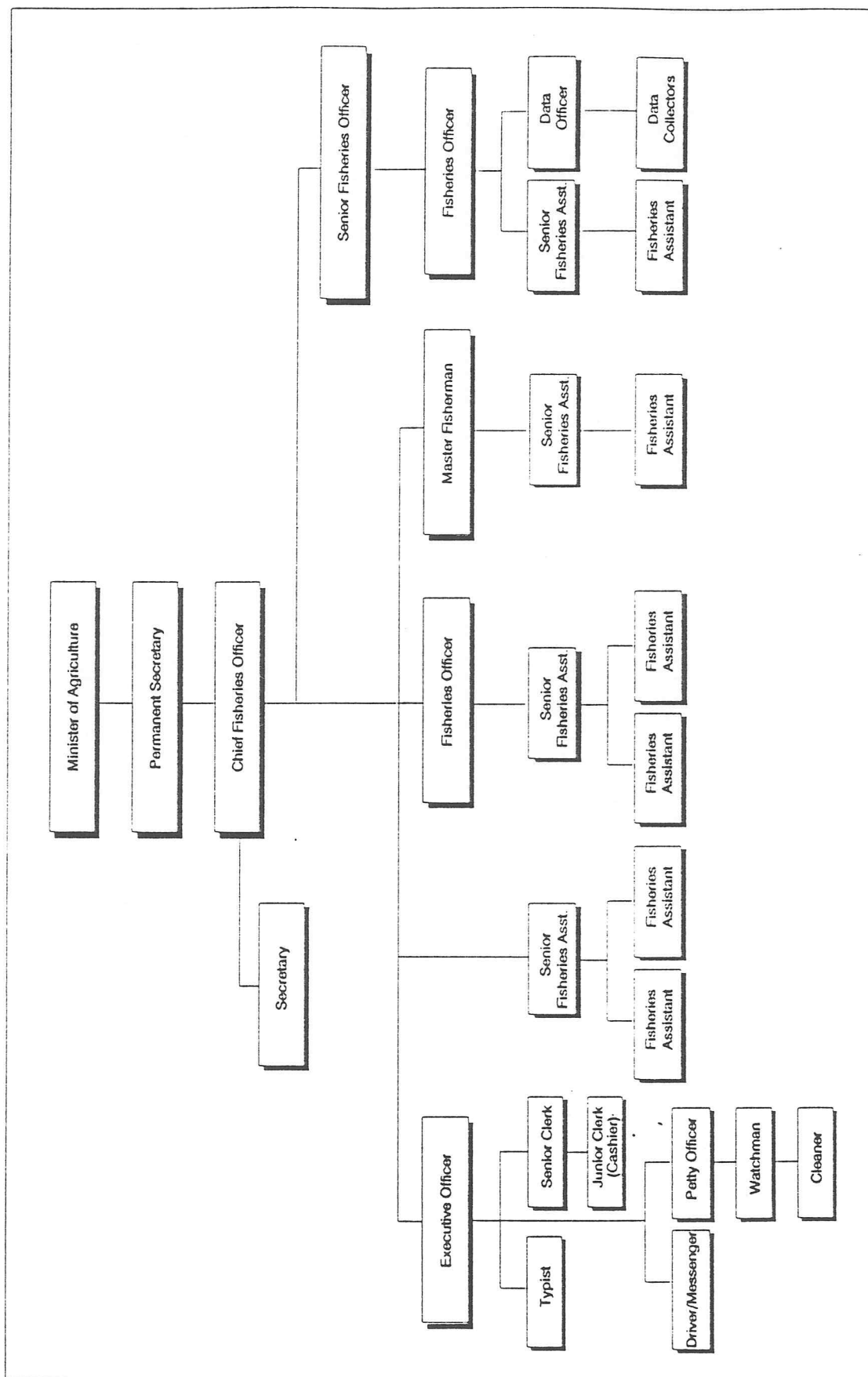


Figure 4.1 Organisational Chart of Fisheries - Antigua and Barbuda

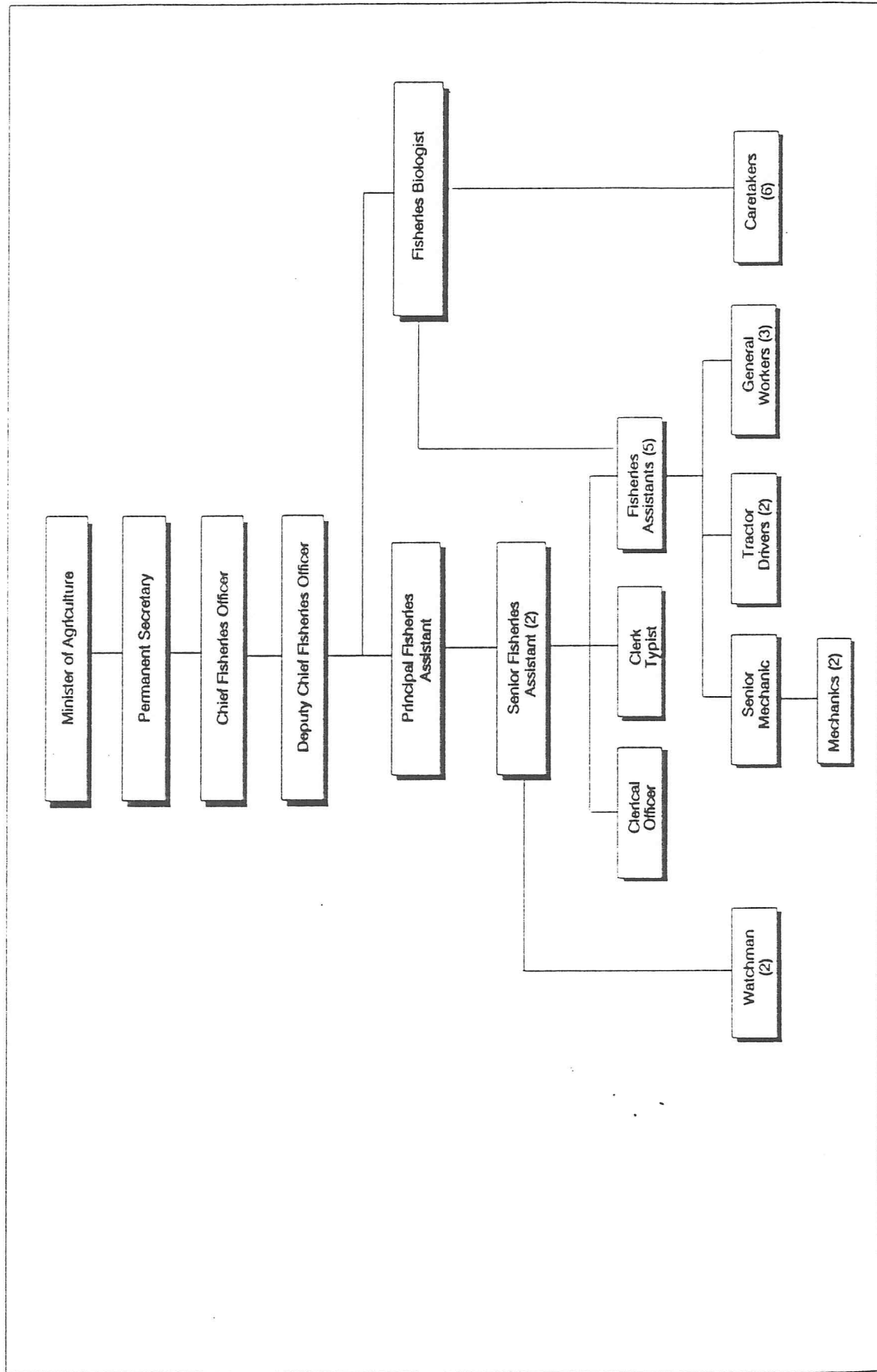


Figure 4.2 Organisational Chart of Fisheries - Barbados

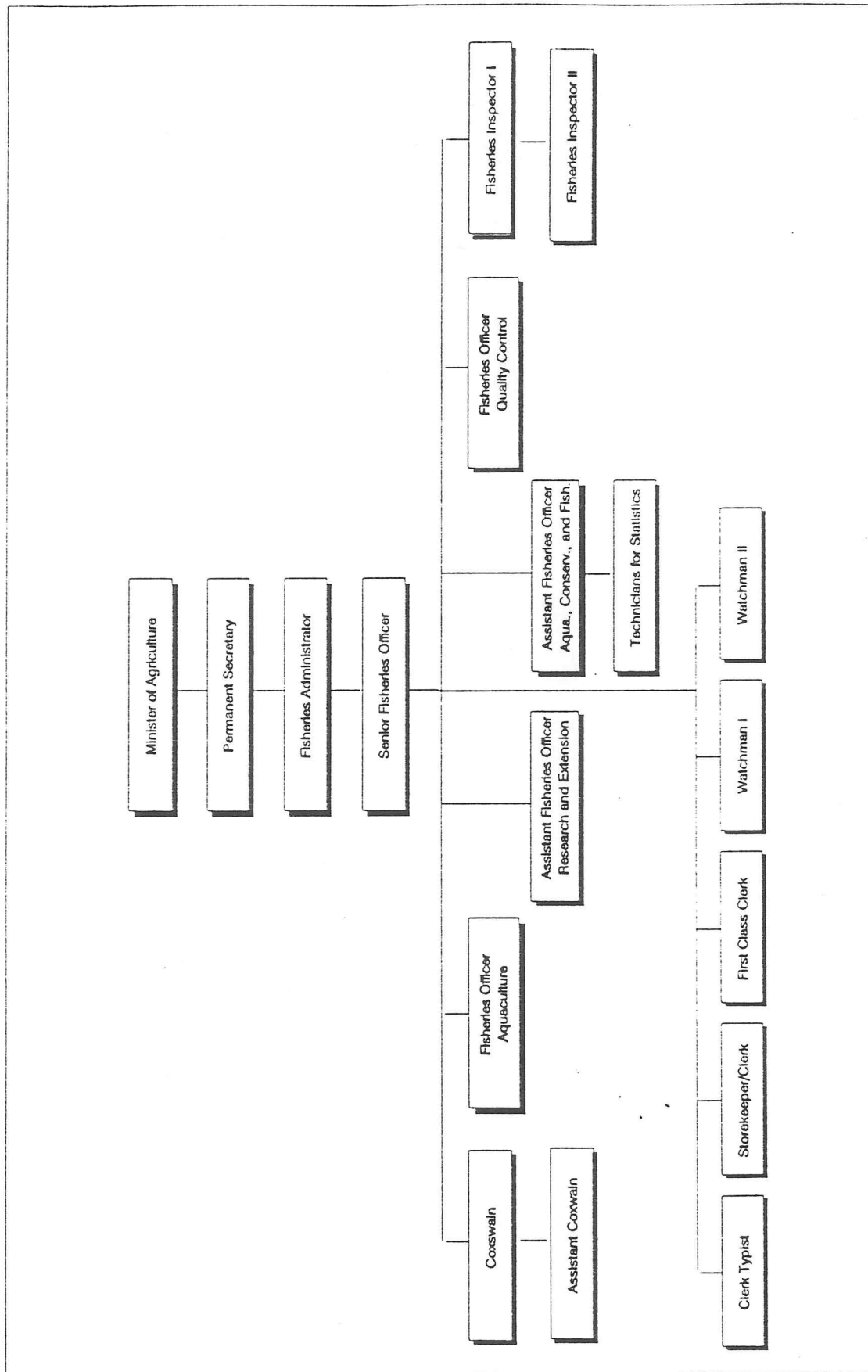


Figure 4.3 Organisational Chart of Fisheries - Belize

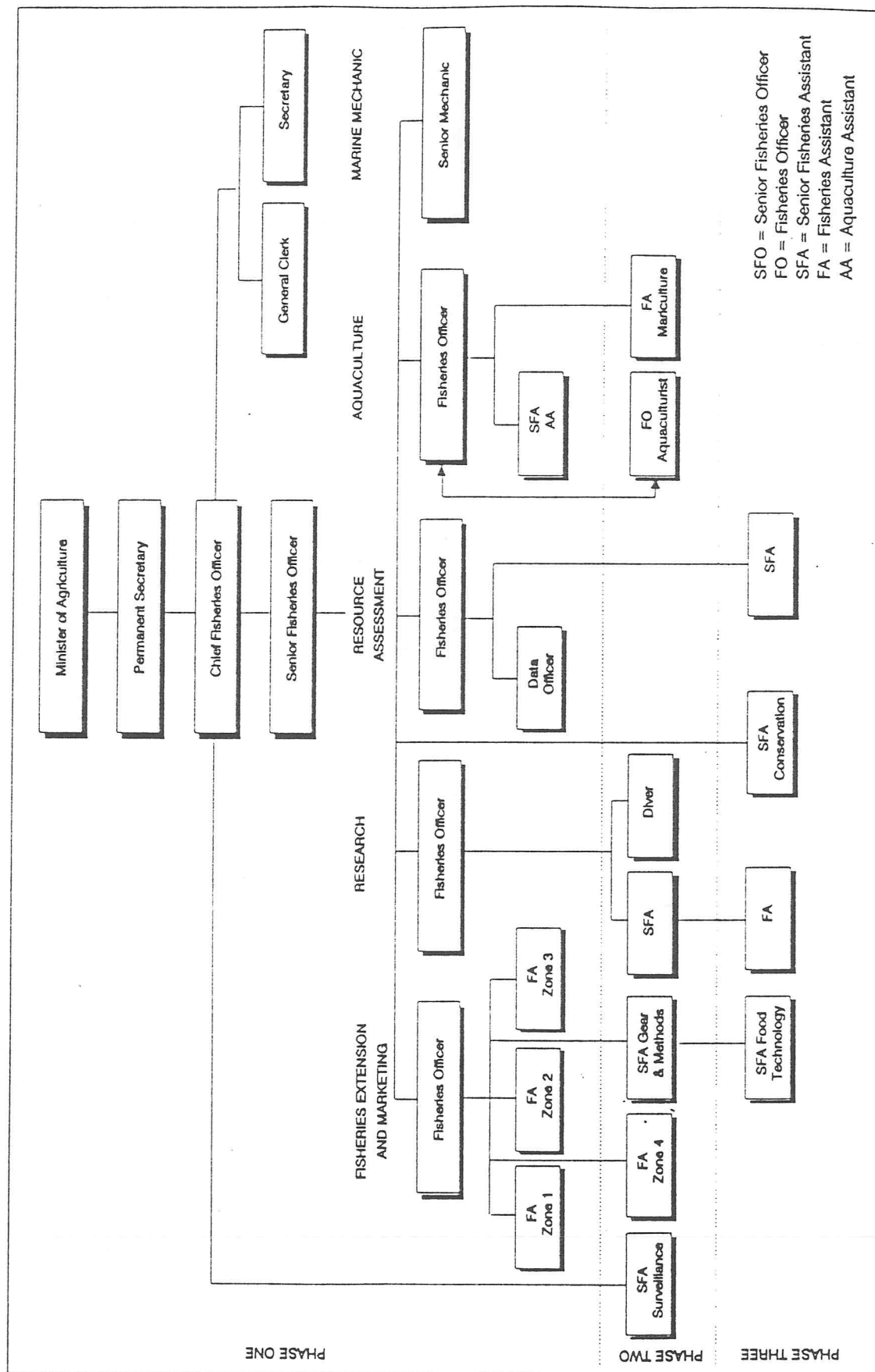


Figure 4.4 Proposed Structure of Fisheries - Dominica

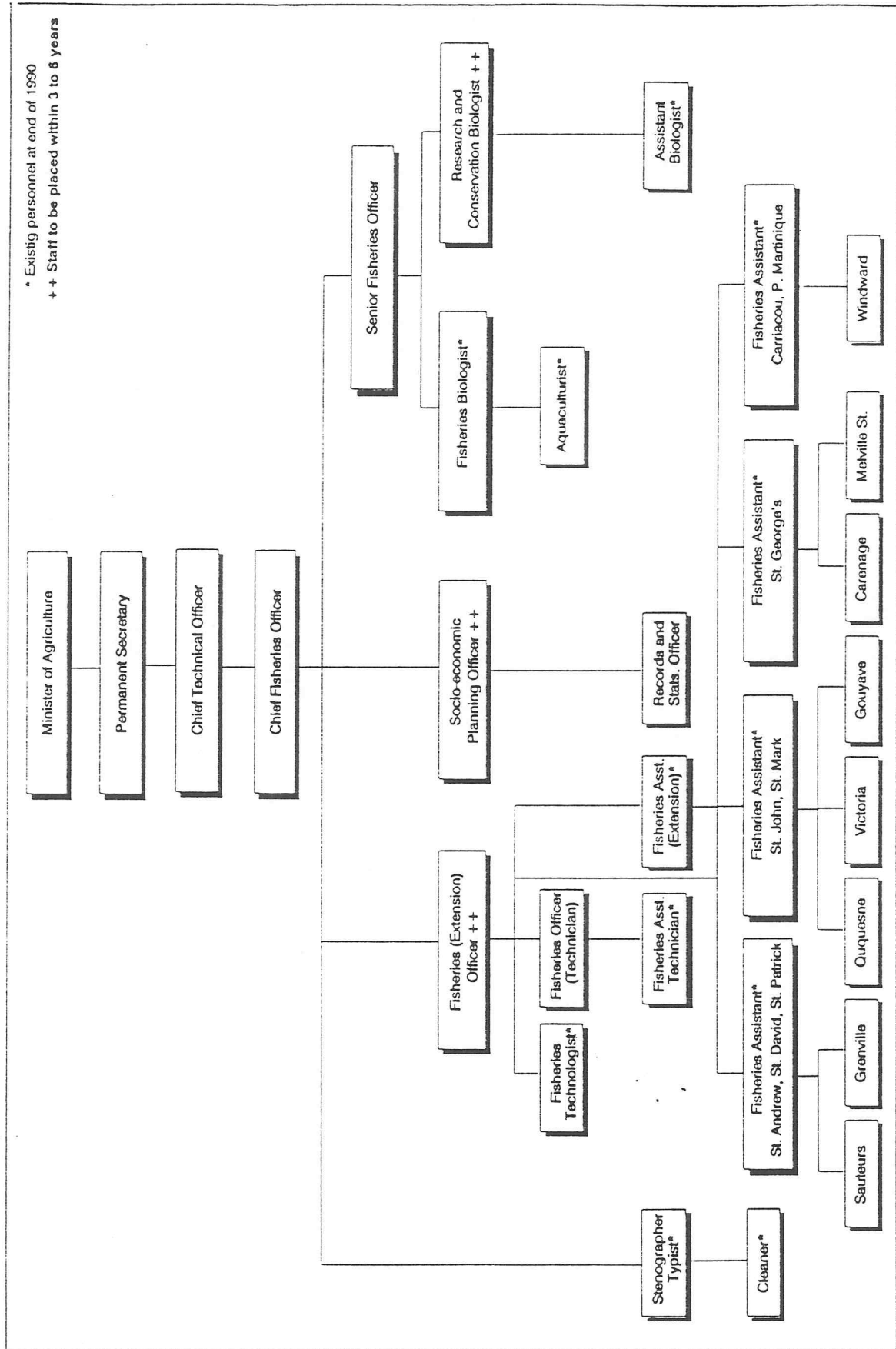


Figure 4.5 Proposed Organisational Chart of Fisheries - Grenada

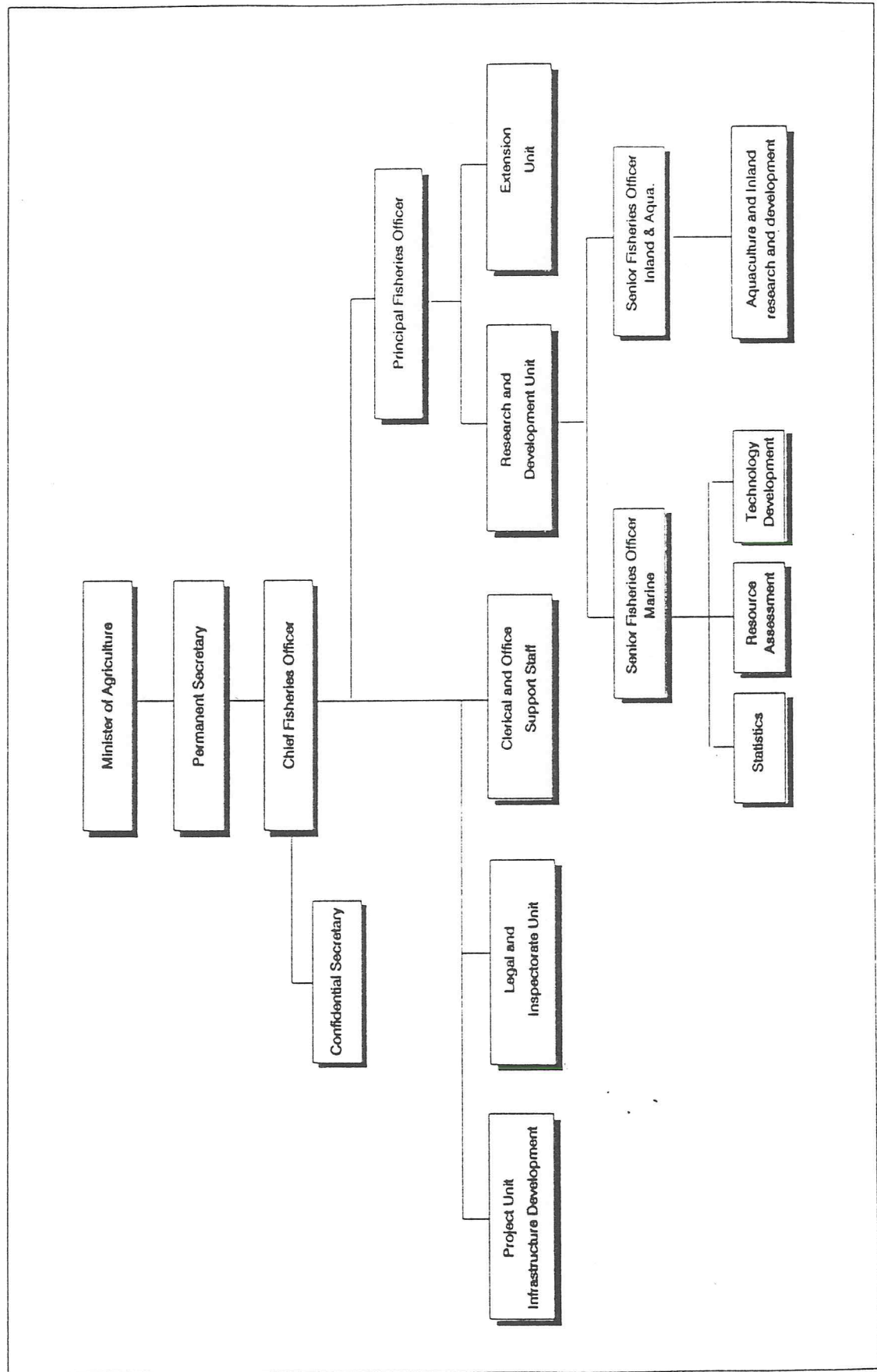


Figure 4.6 Organisational Chart of Fisheries - Guyana

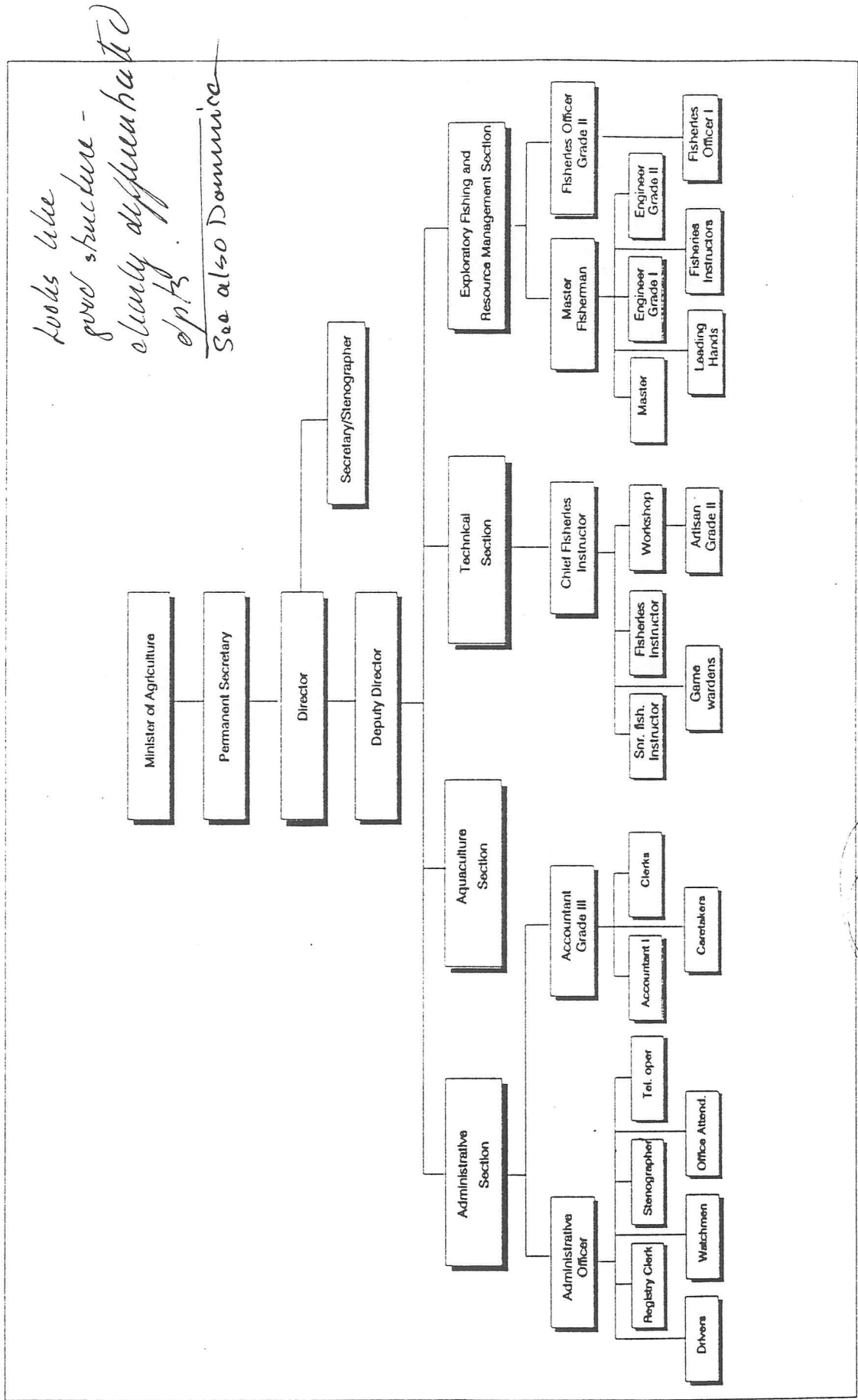


Figure 4.7 Organisational Chart of Fisheries - Jamaica

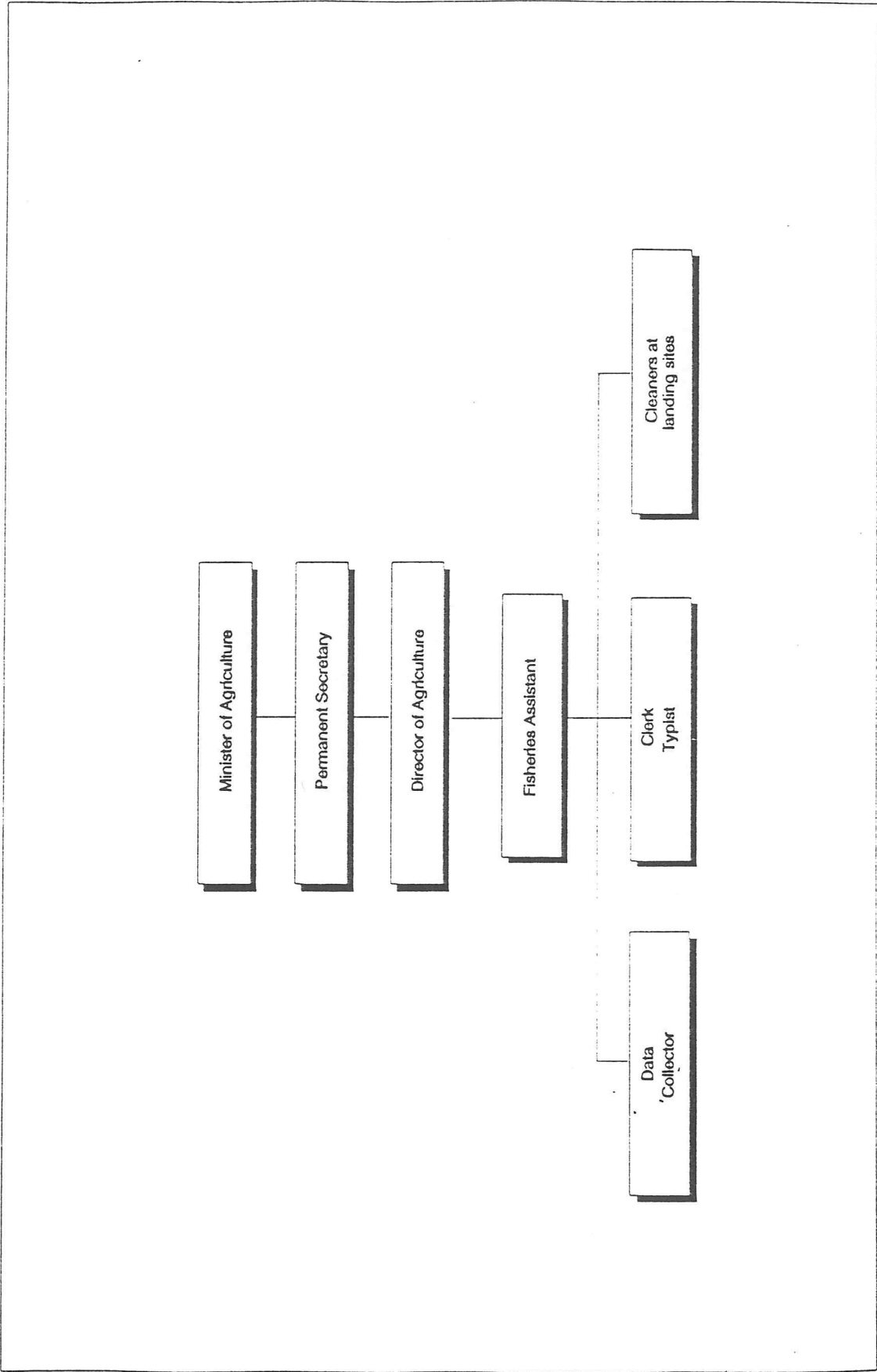


Figure 4.8 Organisational Chart of Fisheries - Montserrat

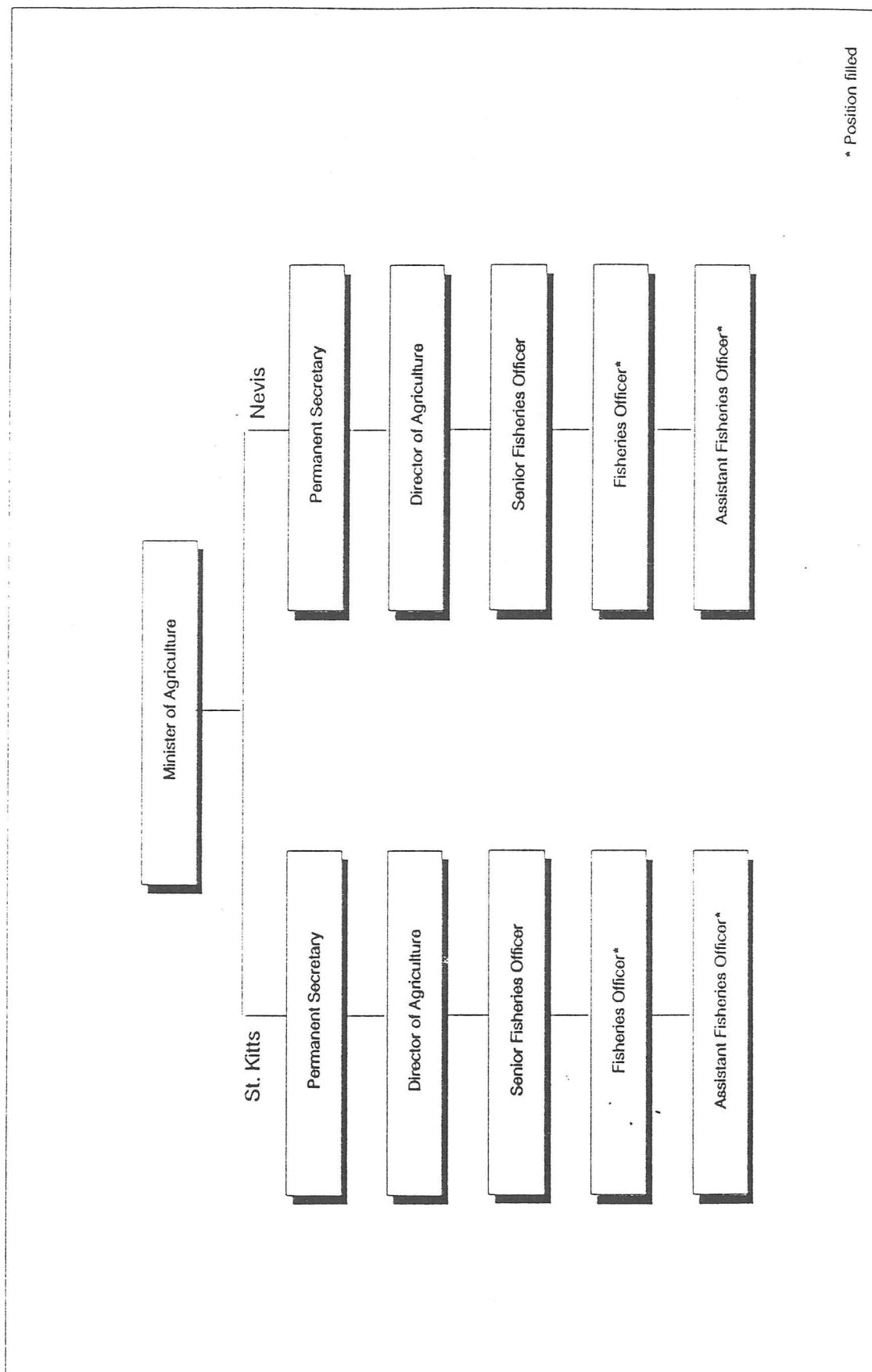


Figure 4.9 Organisational Chart of Fisheries - St. Kitts and Nevis

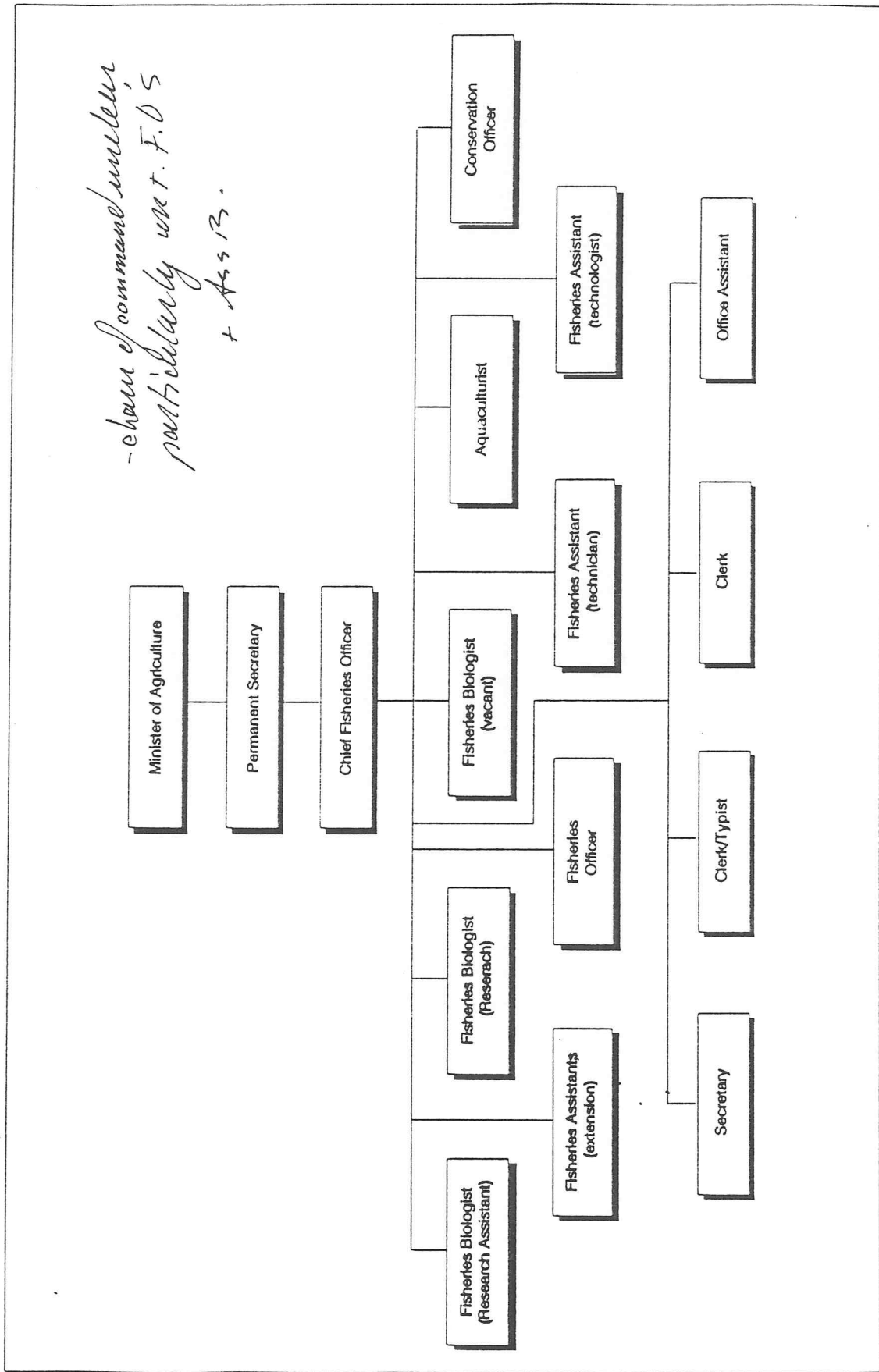
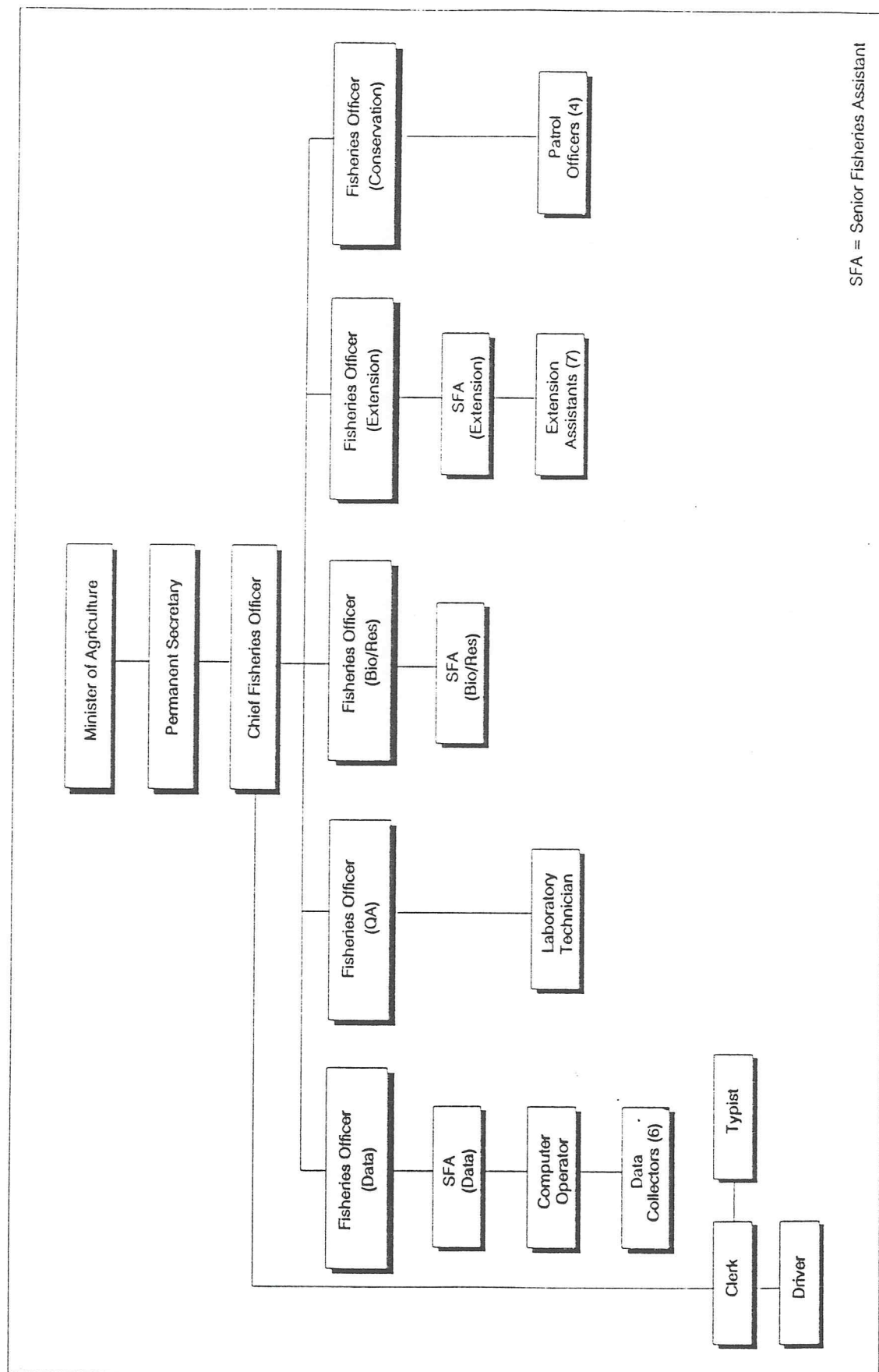


Figure 4.10 Organisational Chart of Fisheries - St. Lucia



SFA = Senior Fisheries Assistant

Figure 4.11 Organisational Chart of Fisheries - St. Vincent and the Grenadines

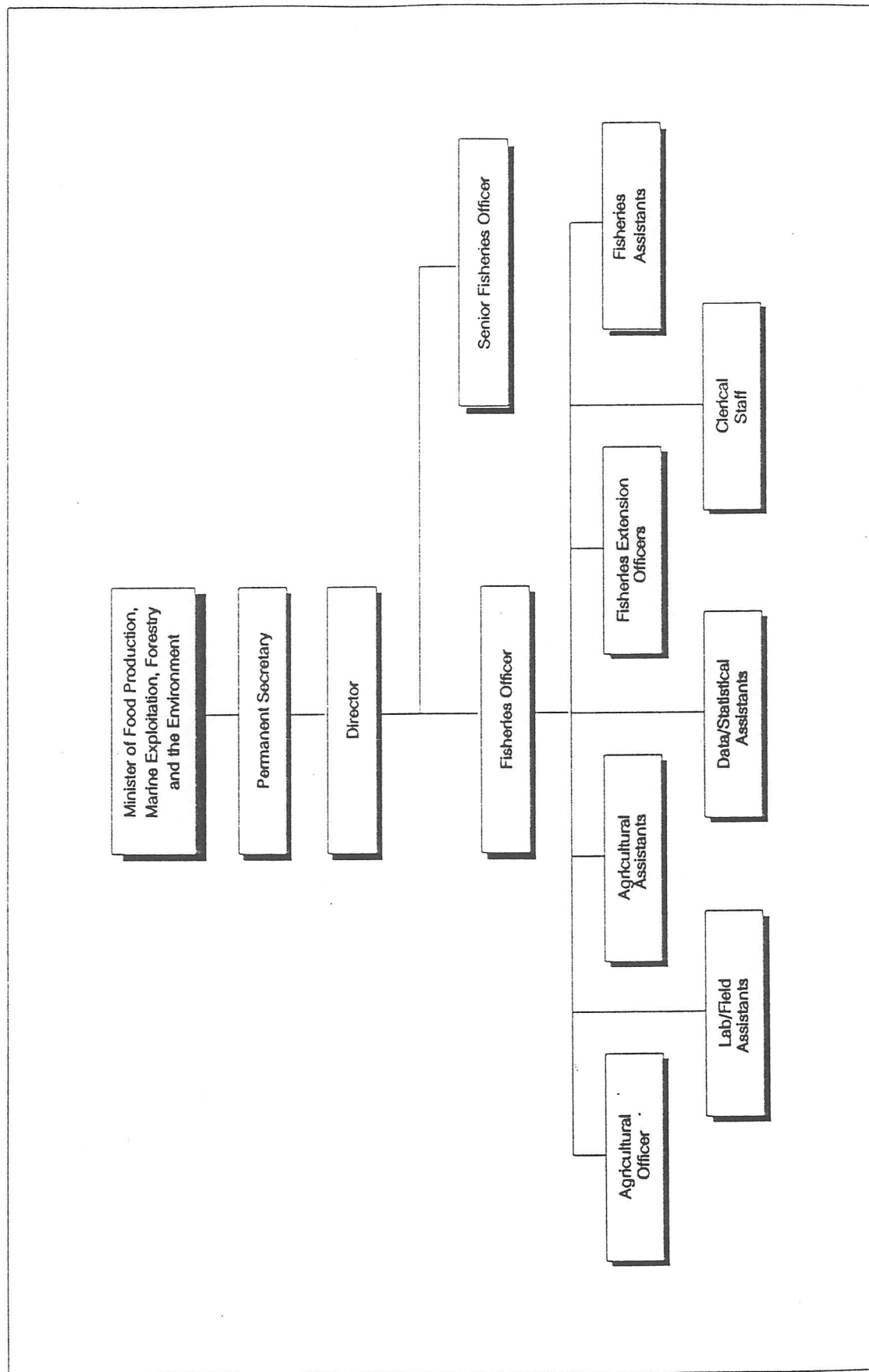


Figure 4.12 Organisational Chart of Fisheries - Trinidad and Tobago

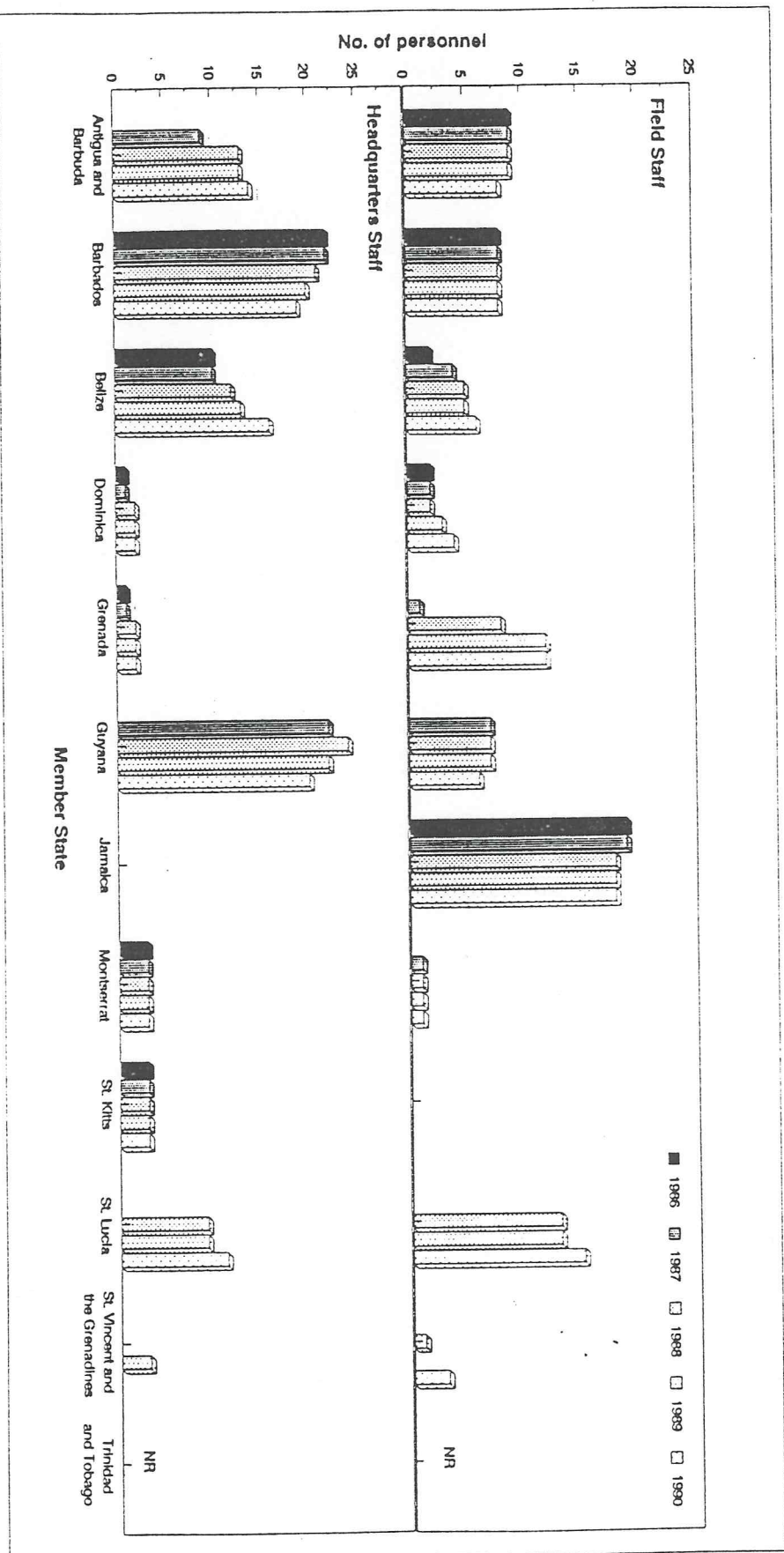


Figure 4.13 Levels of Personnel of Fisheries Divisions (1988-1990)

Table 4.2 Vacancies existing in fisheries departments

Member State	Vacancies	Reasons for vacancies	Effects of vacancies
Antigua and Barbuda	Technical staff; Professional staff for management, development and planning	Require technical knowledge	Adverse
Barbados	Deputy Chief Fisheries Officer		Entire programs or activities may have to be terminated
Belize	None	NA	NA
Dominica	Field Staff	Fisheries now being seen as a career and not many people (local) have been trained in fisheries	Restricts the services that can be delivered; puts strain on the limited staff to carry out various functions
Grenada	Biologists; Refrigeration technicians; Extension staff		Work within constraints
Guyana	3 Fisheries Officers - extension program, legal and inspection unit, data collection & management	Competing for few qualified science graduates with other agencies offering better salaries	Not all units can realise their functions
Jamaica	6 Technical positions; Master Fisherman	Low salary offered	Capability of carrying out the basic objectives is severely diminished
Montserrat	None	NA	NA
St. Kitts and Nevis	Senior Fisheries Officer; Fisheries Trainees		Slows down and stops projects and progress
St. Lucia	Extension officers	Unavailable regional fisheries extension training	Immediate link with fishermen is obviated
St. Vincent and the Grenadines	Data analyst; Quality assurance; gear technology, master fisherman, research biologist, park conservation officer.	Perceived low status of fisheries	Cannot carry out their functions. Slow product development, unable to analyse data presently being collected
Trinidad and Tobago	CFTDI - Instructors, etc.; Fisheries Officer; specialised technical positions	Graduates are available but are inexperienced	Lack of Senior technical positions results in lack of leadership for respective programs

- *Have there been any recent changes in, or recent initiatives to change the department's mandate, staffing levels, or structure? If so, please specify.*
- *Have staff changes accompanied these changes in departmental responsibilities?*

There have been some changes in the mandate of most fisheries departments (Table 4.3). Only in Barbados, Dominica, Grenada and Trinidad and Tobago have changes in staffing, resulting from new mandates, been accompanied by changes in departmental responsibility.

STRUCTURE, ORGANISATION AND FUNCTION OF FISHERIES DEPARTMENTS

Table 4.3 Change in mandate of fisheries departments

Member State	Changes in mandate or structure
Antigua and Barbuda	No changes in mandate, but proposals are being considered for changes in the organisational structure and levels to better discharge the functions
Barbados	Presently undergoing restructuring with post title changes, additional posts, redelegation of responsibilities
Belize	Coastal Zone Management, and an initiative to include marketing and marketing analysis in mandate. There is a proposal to increase staff in the areas of Fish Inspectors, Clerks, and Technicians. There is a proposal to restructure the Department.
Dominica	The Fisheries Development Plan makes recommendations for the new staff levels in keeping with OECS Institutional Enhancement Project.
Grenada	The Manpower Division is examining staff levels.
Guyana	A program being implemented for the restructuring of the public service could have an effect on the department's staffing levels and structure.
Jamaica	No changes in mandate; there have been requests for increased staffing accompanied by reorganisation.
Montserrat	Discussions only - related to increasing staff to meet workload.
St. Kitts and Nevis	A Fisheries Officer was recently employed.
St. Lucia	OECS Institutional Enhancement Project has recommended new structure, etc.
St. Vincent and the Grenadines	No changes in mandate. Staffing levels and structure are changing arising from CIDA Institutional Enhancement Project.
Trinidad and Tobago	Development plan (1987, 1988-92) has expanded mandate and there is an accepted plan for personnel enhancement.

Training

- *Does the department have a formal training plan to enhance the qualifications of its staff?*
- *What are the main sources of funding for staff training?*

Five fisheries departments have no formal training plan to enhance staff qualifications. With the exception of Trinidad and Tobago, funding for training is largely from external agencies in all Member States (Table 4.4). In addition to this, staff of Fisheries Division have attended a number of conferences and workshops (Table 4.5). Many of these are not specifically for training, but re perceived by Fisheries Officers as being a valuable source of training.

Table 4.4 Training programs for fisheries staff

Member State	Formal training program	Source of funding
Antigua and Barbuda	No	JICA (Japanese Foreign Aid Program), CIDA, ICOD
Barbados	Yes	External agencies - IDB, ICOD, FAO
Belize	No	External agencies, invitations and projects with training
Dominica	No	Donor agencies and government funds
Grenada	No	CIDA, ICOD, British Development Division
Guyana	Yes	British Council, CIDA, FAO, ICOD
Jamaica	Yes	Donor agencies, foreign government programs
Montserrat	No	OECS, external agencies -ICOD, CTAP
St. Kitts and Nevis	Yes	External agencies
St. Lucia	Yes	Local government and external agencies
St. Vincent and the Grenadines	Yes	External donors EDF, Japanese government, CIDA/ICOD project
Trinidad and Tobago	Yes	Internal capital budget, government awarded fellowships (internal and external), foreign administration fellowships, project specific training

4.2 Functions

- *What are the main functions of the Fisheries Department? How well is the Fisheries Department actually able to carry out each function? What are the main constraints for those which cannot be carried out fully?*

Table 4.6 shows the extent to which the fisheries departments carry out their functions. Lack of manpower, funds and equipment (Table 4.7) were seen as the main constraints to the efficiency with which their functions could be executed.

STRUCTURE, ORGANISATION AND FUNCTION OF FISHERIES DEPARTMENTS

- What information and reports are routinely prepared by your headquarters staff?
- What information and reports are routinely prepared by your field staff?
- Who uses these reports and for what purpose?

In all Member States, with the exception of Antigua and Barbuda, Dominica and Grenada, annual reports/summaries are produced by the headquarters staff. Ad hoc reports are produced by departments in Antigua and Barbuda, Dominica and Grenada. Monthly and more frequent reports are produced in most states. Field staff in St. Vincent and the Grenadines and Dominica produce quarterly reports. Catch reports are produced in Barbados, Antigua and Barbuda and Grenada. Project reports are produced in Montserrat and Belize. Extension reports are produced by Trinidad and Tobago and Dominica. Reports produced by field staff are used primarily by departmental staff, however, they may also be used by others at different levels in the industry (Table 4.8).

- Are any information and reports necessary for fishery management unable to be prepared because of lack of resources?

In most states, Fishery Departments are unable to prepare information and reports necessary for fishery management are unable because of lack of resources. Lack of necessary data was cited as a major constraint in Dominica, Belize, Grenada and Jamaica. Lack of biological information for stock assessment was cited as a constraining factor in Belize, Montserrat, St. Lucia and St. Vincent and the Grenadines.

Table 4.6 Extent to which functions of fisheries departments are carried out

Function	Member State											
	A N T	B G I	B E L	D O M	G U Y	G R N	J A M	M O N	S K N	S L U	S V G	T & T
1 = very poor; 2 = poor; 3 = acceptable; 4 = good; 5 = very good												
Fishery management and development planning	5	3		4	3	4	2	3	3	3	4	3
Licensing and registration	4	4		5	3	5	4	1	1	2	1	4
Surveillance and Enforcement	1	1		2	2	3	2	3	2	2	5	NA
Fishery technology and development	1	3		3	2	5	3	2	3	3	2	3
Exploratory fishing	1	2		4	2	5	3	3	1	2	1	3
Extension training	3	4		4	3	3	3	3	NA	3	5	4
Fishery data collection and management	4	4		4	2	4	1	2	1	3	5	3
Administration of loan and subsidy program	NA	4		3	NA	3	4	NA	1	NA	1	4
Resource assessment	1	1		3	2	4	1	1	2	3	1	2

benefits from
St. V.
Fisheries
desk

BA12
Generally
bad

Scored
as bad

STRUCTURE, ORGANISATION AND FUNCTION OF FISHERIES DEPARTMENTS

Table 4.7 Physical resources available to Fisheries Departments (1990)

incomplete Table

Member State	Physical Resources				
	Vehicles	Boats	Fishing gear	Buildings	Other Equipment
Antigua and Barbuda	1	1		1	radios, vhf radios, ssb
Barbados	8	2	miscellaneous	2	
Belize	NR				
Dominica	4	2			
Grenada	NR				
Guyana	NR				
Jamaica	10	2	snapper reels, traps, seines	5	fish handling equipment
Montserrat	partial access	0	longlines, sharklines	5	2 tonne ice machine
St. Kitts and Nevis				1	
St. Lucia	1	2			
St. Vincent and the Grenadines	N11R				
Trinidad and Tobago	NR				

Table 4.8 Users of reports

Member State	Users of reports
Antigua and Barbuda	Field information is used by headquarters for reports and to advise the Minister.
Barbados	Economic Affairs Division - production of annual national economic report
Belize	Annual reports used by Permanent Secretary and Minister
Dominica	Quarterly reports used to formulate wider divisional reports for head of department meeting. Weekly diary and extension reports are used for information, direction of divisional activities; appraisal of employees. Implementation plans are used by the economic development unit for dispersion of funds. Work program used to collate wider ministry programs.
Grenada	Ministry; FAO; Government Stats Officer. Used for the purposes of project preparation.
Guyana	Agriculture Planning Unit, State Planning Secretariat and Statistical Bureau for planning, and monitoring; Permanent Secretary and Minister of Agriculture and reports to Cabinet and Parliament; FAO for annual statistical reports.
Jamaica	Annual report used by Minister for budget and by students to learn about the industry.

STRUCTURE, ORGANISATION AND FUNCTION OF FISHERIES DEPARTMENTS

Member State	Users of reports
Montserrat	Ministry and development unit - for development planning.
St. Kitts and Nevis	Fisheries Division to set annual objectives.
St. Lucia	NR
St. Vincent	Fisheries division, national statistical department, prospective investors in fishing, and students.
Trinidad and Tobago	Annual reports - general information; QDPR - monthly financial monitoring; extension staff reports - Fisheries Division.

Fishers organisations

- *Does the fisheries department have regular meetings with fishers' organisations?*
- *How often do you hold meetings?*
- *What are the objectives of these meetings?*
- *What topics are generally discussed at these meetings?*
- *Are meetings held to discuss fisheries management measures?*

With the exception of Barbados where there are no functioning fishers' organisations, there are regular meetings between the fisheries departments and these organisations (Table 4.9). The main objectives of these meetings are to provide fishers with information and to address fishers' issues. As such, these meeting are often held to discuss fisheries management, infrastructural arrangements, gear technology and foreign fishing, among other issues.

- *Describe the nature and function of fishers' organisations.*
- *Are they well organised and do they effectively represent fishers?*

Many fishers organisations exist as co-operatives involved in a number of areas in the industry. These areas include marketing, training and representation to Governments on policies affecting the industry. The level of organisation and representation varies among fishers' organisations, but is generally good.

- *What has been accomplished as a result of the meetings or other forms of interaction with fishers' organisations?*
- *Can you cite any specific examples where the interaction with fishers' organisations has led to improvements in the fisheries?*

Table 4.9 Meeting with fishers' organisations

Member State	Frequency of meetings	Objective of meetings
Antigua and Barbuda	once a month	Maintain close liaison.
Barbados	ad hoc meetings with fishermen (no organisation)	Legislation review, infrastructure, planning, obtain comments from fish workers, etc.
Belize	monthly	To clarify and discuss contentious points and issues.
Dominica	minimum of six meetings per quarter	To inform and discuss fisheries issues, group problems, division's plans, co-operative information and development, fisheries promotion activities, training areas.
Grenada	every second month	Address issues and problems.
Guyana	monthly or as required	Forum to discuss issues affecting fishermen.
Jamaica	as required; Annual General Fisheries Conference	To resolve topical issues, and pass on information to the industry.
Montserrat	at least three times a year	Feedback from fishermen, update fishermen on Government's plans, general interaction.
St. Kitts and Nevis	as required	To share fishermen's concerns.
St. Lucia	once a week	Dialogue on government policy and matters affecting fishermen.
St. Vincent and the Grenadines	quarterly	Provide information and consultation, discuss development plan, advise of training opportunities, correct development issues and management issues.
Trinidad and Tobago	as required (twice per month)	Address specific problems called by fishing industry.

- Describe the overall relationship between the fisheries department and fishers' organisations?
- Do fishers' organisations support the activities of the fisheries department? Are there particular areas of activity they support? Are there areas they do not support?
- Have relations between the fisheries department and fishers' organisations hampered your management activities? If yes, please specify?
- What, if anything, needs to be done to improve the relations between the fisheries department and fishers' organisations?

Except where there are political considerations, relations between fisheries departments and fishers organisations have not hampered the development of management activities. Indeed, the main accomplishment of discussion held between fisheries departments and fishers organisations has been an improvement in relations between the departments and the organisations, leading to a better understanding of management and development processes and better support of activities of the fisheries departments. Concessions on equipment and gear has been another accomplishment. Specific examples of these accomplishments are summarised in Table 4.10. It was suggested that increased staffing, in particular in the extension programs, leading to greater interactions could further improve relations and effectiveness.

Table 4.10 Specific accomplishments of Fisheries Department interactions with fishers' organisations

Member State	Accomplishment of interactions
Antigua and Barbuda	Education of the fishermen regarding conservation has raised the consciousness. Some fishermen switched to a 1½" mesh net prior to the regulation coming into effect.
Barbados	None
Belize	Establishment of Hol Chan reserve; development of a coastal zone management concept; better appreciation of the shrimp capture fishery regulations.
Dominica	Revival of a Co-op facing organisational problems after two meetings with Fisheries and Co-operative personnel.
Grenada	Fishermen's Union lobbied for abolishment of foreign fishing and was successful. Lobby for concessions.
Guyana	In the artisanal fishery, where infrastructure is being constructed by government for management and operation by the cooperatives. The acceptance by the trawl industry of limits on the prawn fishery.
Jamaica	Cheaper equipment; reduced fuel prices.
Montserrat	Availability of space for landing site facilities.
St. Kitts and Nevis	Purchases of gear in bulk. Proposals for training and other projects usually come about as a result of this kind of interaction.
St. Lucia	Improved adherence to management and conservation measures and acceptability of regulations to all those affected.
St. Vincent and the Grenadines	Training, fewer infractions of regulations, improved safety measures.
Trinidad and Tobago	Quality control of fish caught/landed.

5. FISHERIES RESOURCE RESEARCH

The objective of this section is to determine what capacity exists for fisheries research in the region and at the national level. Capacity is indicated by the number of organisations conducting research, the number and qualifications of personnel active in the field, and the financial and other resources (eg, equipment and vessels) available to support research activities. Research is defined to include scientific and applied research as well as resource assessment.

5.1 Research capability

- *Does fisheries research (including resource assessment) fall within the mandate of your fisheries department?*
- *What resources (personnel, equipment and financial) does your department have to conduct fisheries research of a scientific or applied nature?*

Fisheries research falls within the mandate of the fisheries departments of all Member States. However, in Guyana, Dominica, St. Kitts and Nevis and Belize there are limited or no resources (manpower and or funds) with which to conduct research. Personnel and equipment available in other Member States are summarised in Table 5.1.

- *What facilities exist to conduct fisheries research in your country - research stations, laboratories, vessels, documentation centres, libraries, etc.?*

Campus territories of the University of the West Indies (Barbados, Jamaica and Trinidad and Tobago) also have facilities for fisheries research. Other facilities available are summarised in Table 5.2. Further details of the role of regional institutions in fisheries research are available from the CFRAMP Baseline Survey of these institutions².

- *Has your department received external funding for research projects in the past five years? If yes, specify donor agency, amount of funding received, area of research and when received?*

External donor agencies represent the main sources of funding for fisheries research in all Member States with the exception of St. Lucia, Jamaica and Trinidad and Tobago, where funding is largely local. As such, lack of funding provides a major constraint to conducting research in most Member States. Barbados, Guyana, Montserrat or St. Vincent and the Grenadines reported no external funding being provided for research in the past 5 years.

²

Mahon, R. and R. Bateson. 1992. CARICOM Fishery Resource Assessment and Management Program Baseline Survey of Regional Institutions Involved in Fisheries Research. CARICOM Fishery Research Document No. 6: 33 pp.

Table 5.1 Summary of resources available for fisheries research

Member State	No. of persons	Equipment	Laboratory
Barbados	1 marine biologist, 1 technician	vessel (8 m), SCUBA gear	dry lab
Belize		vessel (48')	
Dominica		vessel	lab (in future)
Grenada	1 technologist, 1 biologist		
Guyana			
Jamaica	12 (8 crew)	vessel (72'), scuba gear	
Montserrat	data collector	vessel (on hire)	
St. Kitts and Nevis			
St. Lucia	1 marine biologist, 1 ecologist, statistical officers	computer	basic lab
St. Vincent and the Grenadines	Personnel at diploma level	vessel (1992)	lab equipment
Trinidad and Tobago	15 professionals and para-professionals	2 vehicles, computers	lab, library

However, Belize has been the recipient of USAID/WWF funding in 1987 for the Hol Chan Marine Reserve and from ICOD for "Planning for Fisheries Management" in 1989. ICOD also provided funding for lobster assessment in Jamaica. Grenada received US\$3,000 for research from ICCAT. IDRC provided funds for Research Information Management to Trinidad and Tobago and for oyster culture in Jamaica. Trinidad and Tobago also received US\$250,000 for stock assessment/data collection establishment from UNDP/FAO. Even where funding is available, lack of manpower and equipment provide further constraints to conducting research at the regional level.

6. EXTENSION PROGRAMS

The objective of this section is to gain some insight into the nature and extent of fisheries extension services among CARICOM members.

6.1 Extension capability

- *Does your fisheries department have an extension program or offer extension services? If so, how long has the program or services been in existence?*
- *Does the extension program flow from a fisheries management plan or some other type of departmental plan or fisheries project, or are services offered on an ad hoc basis?*

The fisheries departments of all Member States have extension programs which, in many cases, have been in existence since the inception of the department. Antigua and Barbuda's extension program functions to a limited extent. Generally these extension programs follow on from fisheries management plans or fisheries projects, however, many ad hoc programs are also developed. These programs are usually oriented to fishermen, but in Trinidad and Tobago, Belize and Barbados processors are also offered such services; and in St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines vendors and other fisherfolk benefit from the extension programs.

- *What are the objectives of your extension program?*

The primary objective of most extension programs has been training of fisherfolk to increase their efficiency and productivity. This may be through the introduction of new gear, handling, processing and navigational techniques. In St. Kitts and Nevis the main objective is the promotion of fishing co-ops while St. Vincent and the Grenadines's program concentrates on data collection. In Jamaica, the focus is on dissemination of aquaculture information

6.2 Extension activities

Program execution

- *To which segments of the fishing industry are extension services provided?*
- *How are the services delivered?*

Several methods are used to deliver extension services to target groups (Table 6.1).

Table 6.1 Methods used to deliver extension programs

Member State	Informal talks	Formal training	Audio-Visual aids	Media	Officers	Co-ops
Antigua and Barbuda	✓		✓	✓		
Barbados		✓			✓	
Belize	✓	✓	✓	✓		
Dominica		✓	✓			
Grenada	✓	✓	✓			
Guyana	✓					✓
Jamaica					✓	✓
Montserrat				✓	✓	
St. Kitts and Nevis					✓	
St. Lucia					✓	
St. Vincent and the Grenadines and the Grenadines	✓			✓		
Trinidad and Tobago		✓			✓	

Objectives

- Which services are delivered? Which ones are considered most important and why?
- Are the extension objectives being met? If not, why not?
- What are the most important achievements?
- What factors contribute most to the success of the extension program?

Extension objectives are met to varying degrees. In Antigua and Barbuda, personal contact has contributed to an increased awareness of fisheries issues among fishermen and the general public. Despite limited available time for training, fishermen in Barbados have been able to improve their seamanship and fish handling skills. This has been largely due to having fishermen as part of the training staff, as well as persons trained in communication skills. In

Grenada and Guyana, improved infrastructural arrangements have been cited as resulting from improved communications between all involved. In Montserrat and Dominica, increased long-line fishing has been the most important achievement of the extension program. Extension services have also resulted in improved relations between fishermen and fishery personnel in St. Lucia, St. Vincent and the Grenadines and Jamaica. In Belize, the Radio Magazine programme has been the most important achievement.

Staffing

- *How many of your staff are involved in extension work? What percentage is this of your total staff?*
- *Are all of the extension positions filled? If not what percentage is vacant?*
- *What training have extension staff received? What further training is required?*

The number of staff involved in extension work is shown in Figure 6.1. In Antigua and Barbuda, Belize, Dominica and St. Kitts and Nevis no specific extension program posts exists. In St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago and Grenada, all posts are filled. In Barbados one position remains vacant. Staff are trained to varying extents, as show in Table 6.2.

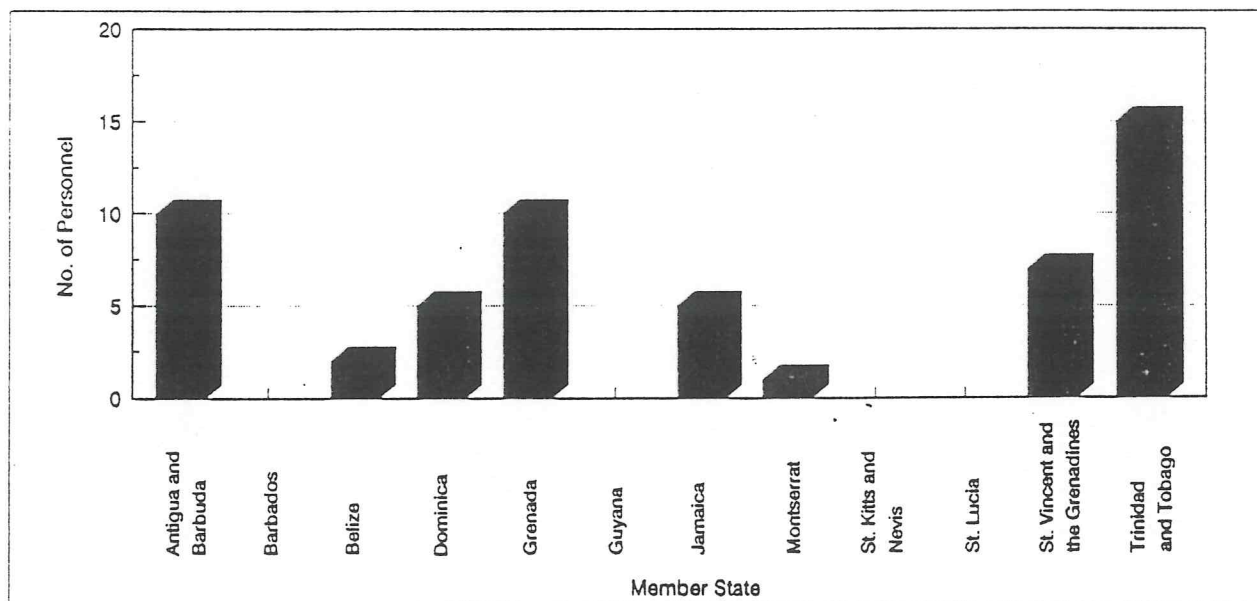


Figure 6.1 Number of Fisheries Division personnel Involved in extension program

EXTENSION PROGRAMS

Table 6.2 Training for extension program staff

Pgs. to Need
for TRG.

Member State	Aquaculture	Fishery technology and management	Communi- cations	Formal training	Extension methodology
Antigua and Barbuda					
Barbados			✓		
Belize				✓	
Dominica	✓	✓			✓
Grenada		✓			
Guyana	*	*			*
Jamaica	✓				✓
Montserrat	✓		*		✓
St. Kitts and Nevis					
St. Lucia				✓	
St. Vincent and the Grenadines	✓	✓			
Trinidad and Tobago		*		✓	

✓ present * future

Other extension programs

- *Do any other departments, institutions or organisations provide extension services to the fishery?*

The Co-operatives Departments in Belize, Grenada, Guyana, Jamaica and St. Lucia provide extension services to the fishery. The Agriculture Department in St. Kitts and Nevis and the Agriculture Extension Officers in Trinidad and Tobago provide such services. In Barbados, assistance comes from the Coast Guard and in Dominica assistance is received from China and the FAO. No additional services are offered in Antigua and Barbuda, Montserrat or St. Vincent and the Grenadines.

Constraints

- *What are the major constraints to offering extension programs/services?*
- *How do you deal with these constraints?*
- *What are the major gaps in the extension program?*

As with other programs offered by fisheries departments, lack of manpower and finance represent the major constraints to offering extension programs. In Jamaica and Montserrat, transportation also presents a problem. In Dominica, illiteracy and unavailability of fishermen for training are additional constraints.

Various strategies have been developed to help alleviate some of these problems. These take the form of assistance from other units, as in Belize, Guyana and St. Kitts and Nevis; extended hours, as in Montserrat and Dominica; use of available vehicles, as in Jamaica and Guyana; and seeking support from donor agencies, as in Antigua and Barbuda, Grenada and Trinidad and Tobago.

In Jamaica and Montserrat there was a perceived need for a structured extension program. Fishing technology represents the major gap in the extension programs of St. Kitts and Nevis, Belize and Barbados. There are also gaps in training in Guyana and Grenada, while Trinidad and Tobago's program requires fisheries management sensitisation and co-op development.

7. FISHERIES STATISTICS AND DATA COLLECTION SYSTEMS

The objective of this section is to develop an understanding of the current status of data collection systems among CARICOM members. Of interest are the type of fishery statistics compiled, how these are collected and how they are used.

7.1 Data collection capability

- *Does your department/division collect fisheries statistics?*
- *Are any other governmental departments/ministries involved in collecting and reporting fisheries statistics? If so, which departments/ministries and what statistics do they collect and report?*
- *If yes to question 2, Why are these departments and not the fisheries division responsible for collecting fisheries statistics?*
- *In what year did your department begin to collect fisheries statistics on a routine basis?*

All fisheries departments collect fisheries statistics, some dating back to 1955 (Table 7.1). With the exception of Grenada and Guyana, fisheries statistics are also collected by other Government agencies within the Member States as shown in Table 7.2. The fisheries departments are, however, primarily responsible for data collection, and for disseminating the information to other departments. In Trinidad and Tobago, the Central Statistical Office (CSO) is the legal authority under the Statistics Act for the collection of all national statistics. In most cases the data collected by other departments were primarily related to estimating trade and GNP figures.

7.2 Problems and constraints

- *What is the process for determining what statistics are to be collected?*
- *What factors are taken into consideration in deciding what types of statistics are to be collected?*

The processes and factors considered in determining the statistics to be collected vary (Table 7.3).

Table 7.1 Duration of data collection

Member State	Year
Antigua and Barbuda	1982
Barbados	1955
Belize	1958 (export); 1976 (CPUE)
Dominica	1987
Grenada	1975
Guyana	
Jamaica	1970
Montserrat	1987
St. Kitts and Nevis	1988 (3 months only)
St. Lucia	1977
St. Vincent and the Grenadines	1981
Trinidad and Tobago	1962

Table 7.2 Other agencies involved in data collection

Member State	Government agency/department
Antigua and Barbuda	Department of Statistics (imports and products)
Barbados	Markets Division, Ministry of Agriculture Food and Fisheries (landings and effort); Agriculture Planning Unit (collates and disseminates production and price statistics)
Belize	Central Statistic Office (production and exports), Central Bank (export)
Dominica	Statistical Division (imports and exports)
Grenada	None
Guyana	None
Jamaica	Data Bank, Ministry of Agriculture (conducts industry surveys at irregular intervals); Trade Board (imports and exports); Jamaica National Export Corporation (imports and exports)
Montserrat	Statistical Department (import figures); Vet Division (export figures); Census office (number of fishermen)

FISHERIES STATISTICS AND DATA COLLECTION SYSTEMS

Member State	Government agency/department
St. Kitts and Nevis	Planning unit
St. Lucia	Agricultural Statistics and Government Statistics departments (collate and report)
St. Vincent and the Grenadines	Ministry of Agriculture, Industry and Labour; Planning unit.
Trinidad and Tobago	Export Development Corporation (exports); CSO (socio-economic development, import/export); National Fisheries Company (landings of long-liners, large trawlers)

Table 7.3 Processes and factors involved in determining fisheries statistics collection

Member State	Processes and factors involved
Antigua and Barbuda	Related to cooperation with the OECS, information is collected in effort manpower landings along with the collection of biological statistics, for example, length, sex, maturity.
Barbados	Information required for management and planning; available personnel and equipment (e.g. computers); cooperation of other departments. Statistics requirement based on national economic reporting requirements at present; Cost; Manpower and finance availability; Eventual use to which the data will be put.
Belize	Normally determined by management needs, government, or directly related to some research activity. For catch statistics data on the most common types of fish caught and that requires monitoring.
Dominica	Data are collected to permit estimates of production levels, state of investment in the industry, level of mechanisation, type of fleet, and fishing methods used.
Grenada	According to need, e.g. catch by species. More recently, catch per unit effort, socioeconomic information.
Guyana	Decided within the fisheries department on the basis of information needs for planning and project development. Need for catch per unit effort indices; need to determine the cost of boat operations and the revenues from boat operations.
Jamaica	No formal process. Depends on requests from funding agencies and type of work the government intends to do; need to map resources.
Montserrat	The Fisheries Assistant directs the Data Collector on daily basis.
St. Kitts and Nevis	According to the OECS Data Enhancement Project.
St. Lucia	To meet national requirements.
St. Vincent and the Grenadines	To acquire information on fish landings and export data, status of harvested stocks and export earnings.
Trinidad and Tobago	Administration identifies needs. Assessment and management objective identification. Importance of particular area/fishes.

- *How has the statistics collection process changed over the past five years in terms of the types of data collected, the method and frequency of collection and the number of staff involved in collection?*

Belize, Grenada, St. Kitts and Nevis, Jamaica and Montserrat recorded no change in the collection of statistics over the past five years. On the other hand there has been an increase in the number of landing sites from which statistics are collected in Barbados and St. Vincent and the Grenadines. In Guyana, Dominica and St. Lucia a more streamlined and intensive approach has been taken.

- *Who collects these statistics? What other departmental responsibilities do the collectors have?*
- *How cooperative are fishers in providing statistics?*
- *Where are statistics collected (boats, landing sites, market, hotels, etc.)?*
- *What collection instruments are used (logbooks, questionnaires, etc.) in collecting data?*

Various types of statistics are collected by the Fisheries departments (Table 7.4). Statistics are generally collected from landing sites and markets using questionnaires or data collection forms (Table 7.5). Data are collected by special data collectors, extension staff or other fisheries department staff (Table 7.6). In several departments, collectors have additional duties. Cooperation between fishers and data collectors varies from generally good in Trinidad and Tobago and Antigua and Barbuda, through reasonably good in St. Vincent and the Grenadines, St. Lucia, Dominica and Barbados, to not very good in Belize, Jamaica, Montserrat and St. Kitts and Nevis.

Table 7.4 Types of statistics collected

Member country	Type of statistics	Frequency and method
Antigua and Barbuda	See paper by Royer <i>et al.</i> (1988) in OECS Fishery Report No 2.	
Barbados	Catch by species, effort, price	Daily at primary sites, periodically at others (census, sample)
Belize	Production, Export, Catch per unit effort	Monthly (census)
Dominica	Catch Fishing fleet	Daily (sample and census) Periodically (census)
Grenada	See paper in OECS Fishery Report No. 2	

FISHERIES STATISTICS AND DATA COLLECTION SYSTEMS

Member country	Type of statistics	Frequency and method
Guyana	NR	
Jamaica	Gas purchases and landings Lobster and conch data Loan and subsidy	Daily (census) On request Ongoing
Montserrat	See paper in OECS Fishery Report No. 2	
St. Kitts and Nevis	Catch, method, area	Once in 1988, from June-Oct. inclusive (census)
St. Lucia	Catch - fleet Fishermen's purpose Fishing methods	Daily (sample) Periodically (census) Daily (sample)
St. Vincent and the Grenadines	NR	
Trinidad and Tobago	Landing (weight and value); nominal effort; times; by methods; "species" Market (wholesale) values Socio-economic Length-frequencies by species	Daily (census) Daily (sample) Periodic surveys (sample) Daily (sample)

Table 7.5 Methods of data collection

Member State	Collection site	Tools
Antigua and Barbuda	landing site, boat	questionnaire, forms
Barbados	landing site, market	forms
Belize	landing site	forms
Dominica	landing site	log book
Grenada	landing site	log book
Guyana	landing site, market	questionnaire, log book
Jamaica	landing site, port, fish companies	log book
Montserrat	landing site, market, boat	questionnaire, forms
St. Kitts and Nevis	landing site	questionnaire
St. Lucia	landing site, market	questionnaire
St. Vincent and the Grenadines	boat, market	questionnaire
Trinidad and Tobago	landing site, customs (exports/imports)	forms

Table 7.6 Personnel involved in data collection

Member State	Persons involved in data collection	Other responsibilities
Antigua and Barbuda	Data collectors	None
Barbados	Markets Division staff at three public markets; Fisheries Division fishing shed caretakers at six popular landing sites	Both have duties of cleaning or supervising cleaning of premises
Belize	One fisheries technician	Occasional field research responsibilities
Dominica	Data collectors; Departmental staff do routine supervision of collection; One collector is also engaged in transfer of data to the computer	None
Grenada	Market staff and extension officers to Headquarters statistics officer	None
Guyana	Supervised by F.O (vacant), two data collectors and one fish field assistant. Assistance from regional fisheries personnel	Regional fisheries personnel, who have a full range of other duties
Jamaica	The fishery Instructors	Loan and subsidy program
Montserrat	Data collector	Assists with other duties
St. Lucia	Data collectors	None
St. Vincent and the Grenadines	Extension Staff	Regular extension duties
Trinidad and Tobago	Beach (statistical) collectors in each fishing area for landing statistics; Fisheries Division Staff for length-frequencies	Beach collectors have no other duties; Fisheries Division Staff involved in biological technical work

- *Is any aspect of the statistical collection/analysis system computerised? What are the main constraints to the increased use of computers?*

Some components of the collection system have been computerised as shown in Table 7.7. The main constraints to this computerisation result from a lack of trained personnel and limited computers resulting in limited access.

Table 7.7 Extent of computerisation in Fisheries Departments

Member State	Computerised	Constraints to computerisation
Antigua and Barbuda	yes	Information not in useable form
Barbados	yes	Insufficient trained personnel, availability of computers
Belize	yes	Lack of computers, software packages, trained personnel
Dominica	yes	Lack of trained personnel
Grenada	partially	
Guyana	no	Finance
Jamaica	yes	
Montserrat	yes	Computer not used
St. Kitts and Nevis	yes	
St. Lucia	yes	Manpower, availability of computers
St. Vincent and the Grenadines	yes	
Trinidad and Tobago	yes	Access to computer

- *What information products are produced from the statistics collected?*
- *For whom are these products produced (the national fisheries division, external organisations, etc.)?*
- *Does the department receive any feedback on the adequacy of statistics/reports from users? If yes, from whom?*
- *Who else besides your department is provided with the statistics? To what use are the statistics put by others?*

Information generated by fisheries departments from statistics collected is often produced in report form and used by other Government Departments and external agencies (Table 7.8). Approximately half of the departments receive feedback on the adequacy of statistics from users. In the case of Dominica, Grenada and Montserrat this is from the FAO. The OECS Fisheries Unit generally provides feedback to Dominica and St. Lucia, whereas Trinidad and Tobago usually receive responses from all users. The other Member States receive no feedback.

Table 7.8 Use of statistics collected

Member State	Information products	Users of information
Antigua and Barbuda	Management data	As required
Barbados	Summary tables, customised information (as required)	Ministry, other Ministries, external organisations, Central Bank
Belize	Table of annual production, local sale, and export.	Central Bank and commercial banks, fisheries department records
Dominica	Catch by area; total landed catch; catch by species; areas of low & high production	Fisheries Division, OECS Fisheries Unit, Statistics Office, National Development Co-operation, FAO, Economics Development Unit
Grenada	Catch per unit effort, catch by species, basic data.	Government, external organisations, e.g. FAO.
Guyana	Monthly reports; included in annual reports.	State Planning Secretariat and Ministry of Finance.
Jamaica	Reports	Ministry of Agriculture; The Planning Institute; Jamaica Producers; other users on request
Montserrat	Reports	Statistics office. General information to schools.
St. Kitts and Nevis	None to date	
St. Lucia	Quarterly reports	On request
St. Vincent and the Grenadines	Summary tables and reports	Fisheries Division, Agriculture Planning Unit, Planning Division, OECS Fisheries Unit
Trinidad and Tobago	Monthly summaries and annual tables	Governmental agencies, research institutions

- *What are the main gaps in your own data collection system?*
- *What data that are not now collected, should be?*
- *What are the main constraints to developing a more comprehensive data collection system?*

With the exception of St. Kitts and Nevis and St. Vincent and the Grenadines, most member states reported gaps in their data collection systems resulting from lack of accuracy.

Similarly, completeness and frequency presented problems for most fisheries departments. St. Vincent and the Grenadines also faced the problem of acquiring information from sites other than Kingstown.

There was an expressed need for the collection of more data (Table 7.9) in three categories:

- detailed biological data to permit resource assessment
- more detail on fishing effort
- socio economic data to permit evaluation of economic efficiency of, and revenues from, fishing operation.

As in other cases, manpower and finance were cited as being the major constraints to developing a more comprehensive data collection system. Transportation presented an additional problem to some departments.

Table 7.9 Additional data requirements

Member State	Data requirements
Antigua and Barbuda	Biological information particularly with regards to fish derbies or fishing tournaments and the effort and amounts or size of catches associated with such events.
Barbados	Biological (e.g. length frequency); Fishing enterprise revenue and expenditure; Detailed fishing effort.
Belize	Production that is not passing through the coops and is not exported; Production by species by fishing area, methods, frequency
Dominica	Profile on persons in the industry; Cost of operation of vessels
Grenada	Costs of operations of fish centers; Costs of operations of boats (direct)
Guyana	Biological data on shrimp and fish; Data from the artisanal fishery.
Jamaica	Accurate catch and effort data on all species
Montserrat	Length data, sex data
St. Kitts and Nevis	Catch, effort, price, size frequency
St. Vincent and the Grenadines	Landings from other ports of the state
Trinidad and Tobago	Fishing area; effort details; gear information; socio-economic data; foreign fishing data (legal and illegal)

8. INFORMATION AVAILABLE FOR FISHERIES MANAGEMENT

The objective of this section is to determine what information is made available by and to CARICOM members to assist in fisheries management efforts at the national and regional levels. Also of interest is an indication of how this information is actually used in fisheries management.

- *What types of fisheries information and reports are routinely made available to your department by regional organisations and institutions?*
- *Are you aware of information or reports which are not routinely made available by regional organisations? If so, why are these not available?*
- *Can you identify any information of a regional nature which is not now collected which would be useful for your fisheries management needs?*

Fisheries departments receive a variety of fisheries information and reports (Table 8.1). In addition to the information collected locally, Barbados and Trinidad and Tobago expressed a need in acquiring foreign fishing data. Other areas identified as being useful for fisheries management are summarised in Table 8.2.

- *What types of fisheries information and reports are routinely made available by your department to regional organisations and institutions?*
- *Is there information collected by your department which is not routinely made available to regional organisations? If not, why not?*
- *How has the exchange of information changed over the past five years? Is more available? Is it more accessible? Is it more relevant to your own fisheries management needs? Is it more up-to-date? Has the quality improved?*
- *How is the information received from regional organisations used in fisheries management by your department? Does it serve a useful purpose? If so, how? If not, why not?*

Annual reports are prepared in St. Kitts and Nevis and St. Lucia and routinely made available to regional organisations. Papers are prepared in Dominica and Trinidad and Tobago and in Montserrat, general information on data collected is distributed. In general, much of the information collected by fisheries departments is not requested by regional organisations. Despite this, there has been a perceived increase in availability, relevance and quality of information exchange over the past five years (Table 8.3). Use of information received from regional organisation is varied (Table 8.4).

INFORMATION AVAILABLE FOR FISHERIES MANAGEMENT

Table 8.1 Publications received by Fisheries Divisions

Publication	Member State											
	A N T	B G I	B E L	D O M	G R N	G U Y	J A M	M O N	S K N	S L U	S V G	T & T
FAO Fishery Circulars	✓	✓	N	✓		N	✓	N	N	✓		N
Fishery Reports	✓	✓	R	✓	✓	R	✓	R	R	✓	✓	R
Fishery Technical Papers	✓	✓		✓	✓		✓			✓	✓	
Artisanal Network News	✓	✓		✓	✓					✓	✓	
Miscellaneous Booklets	✓	✓		✓	✓					✓	✓	
ASFA Bibliographic references	✓	✓		✓	✓		✓					
Annual Statistical Books	✓	✓		✓	✓							
OECS Fishery Reports	✓	✓		✓	✓					✓	✓	
ICCAT Biennial Reports		✓			✓		✓					
ICCAT Statistical Reports		✓			✓							
IOC IOCARIBE Workshop Reports				✓								
WIDECASTE Reports												
Proc. Gulf Caribb. Fish Inst.		✓		✓			✓			✓		
Bulletin of Marine Science	✓			✓	✓						✓	
US NMFS SEFC Reports	✓											
National Fisherman	✓	✓					✓					
University of Puerto Rico Seagrass Publications	✓			✓	✓						✓	
OAS Documents - Marine related				✓								
Fishing News International				✓			✓			✓		
UNESCO - Marine related documents				✓								
Newsletters												
On Board (OECS)	✓	✓		✓	✓		✓			✓	✓	
NAGA (ICLARM)		I		✓	✓		✓			✓		
Fishbyte (ICARM NTFS)		I		✓	✓						✓	
ICCAT		✓			✓							
Caribbean Fishery Management Council				✓	✓							
Association of Island Marine Laboratories of the Caribbean		✓		✓	✓							
International Center for Marine Resource Development (ICMRD)	✓			✓	✓							
Caribbean Environmental Program RCU		✓			✓					✓	✓	
Eastern Caribbean Flyingfish Project	✓			✓	✓					✓	✓	
ICOD		✓		✓							✓	
CCA		✓		✓						✓		
WIDECASTE										✓		
Australian Fisheries				✓			✓			✓		

Table 8.2 Additional information requirements

- Identification of foreign fishing - permitted and illegal, estimate regional landings and effort, resource trends
- Specifically published reports from research institutions in the region
- Stock structure, biomass of harvestable stock, migration of stocks, mesh sizes recommended throughout, vessel sizes, fleet sizes
- Information on shared geologic resources in terms of catch rates & seasonal availability in the vicinity of Guyana
- Causes of fish kills
- Information on waste disposal would also be useful

Table 8.3 Change in information exchange over past five years

Member State	Availability	Accessibility	Relevance	Current	Quality
Antigua and Barbuda					improved
Barbados	increased		increased		improved
Belize	increased		increased	increased	
Dominica	increased	slightly increased	language problem		
Grenada					
Guyana	increased				improved
Jamaica	increased	increased	increased	increased	improved
Montserrat	increased				
St. Kitts and Nevis	increased				
St. Lucia					
St. Vincent and the Grenadines					
Trinidad and Tobago	increased	increased	increased		improved

Table 8.4 Use of information received from regional organisations

Member State	Use of information
Antigua and Barbuda	Formulation of regulations
Barbados	Limited; not detailed or relevant for planning and management
Belize	Crisis management
Dominica	Formulation of management strategies
Guyana	General
Jamaica	Facilitation of participation in courses and meetings
Montserrat	Project formulation
St. Kitts and Nevis	Formulation of management strategies
Trinidad and Tobago	Formulation of management strategies

9. REGIONAL FISHERIES MANAGEMENT MECHANISMS

The objective of this section is to determine the status of: regional fisheries management mechanisms in place; the extent of progress toward regional fisheries management; the awareness in CARICOM countries of the advantages of regional fisheries management; and, the extent to which regional concerns are included in fisheries management in individual countries.

9.1 Existing mechanisms

- *Are there operational regional fisheries management mechanisms in place in the region? If yes, what are they?*
- *Has your country participated in regional fisheries management initiatives? If yes, which initiatives and for how long?*

There was the general perception that there was very little by way of operational fisheries management mechanisms in the region (Table 9.1).

Table 9.1 Perceived operational fisheries management mechanisms ^{BDS?}

Regional management initiative	Member State											
	A N T	B G I	B E L	D O M	G R N	G U Y	J A M	M O N	S K N	S L U	S V G	T & T
Coastal zone management programme				✓								
OECS Fisheries Unit					✓			✓	✓	✓		
FAO/WECAFC marine resource working group					✓							
FAO/WECAFC economics and planning working group					✓							
CARICOM secretariat												✓
US (NMFS)-CFMS management plans												
ICCAT formulation												
WATS 1 and 2					✓							
ECNAMP					✓							
Other (General)	✓			✓		✓						✓

9.2 Requirements for regional management

- *In what ways has the regional approach to fisheries management changed over the past five years?*

There was general agreement that there has been an improvement in the regional approach to fisheries management over the past five years. The OECS Fisheries Unit was cited by several Member States as being an important contributor to this change. More meetings and information exchange were also noted as contributors.

- *Are there any advantages to a regional approach to fisheries management?*

Due to limited resources, it was considered necessary to have a regional approach to fisheries management. This was particularly important in the management of shared resources, information, expertise and training. A regional approach was also perceived as necessary to promote a better awareness of problems encountered, trends in the fishery, and to influence the formulation of national policies.

- *Are there any negative effects to a regional approach to fisheries management?*
- *What practical benefits does your country derive from regional fisheries management initiatives?*
- *How do regional fisheries concerns affect your own management policy and initiatives?*
- *In your view, what actions could regional organisations take to improve the effectiveness of regional fisheries management?*
- *What in your view are the main constraints to making improvements at the regional level?*

Problems were noted as arising when the regional approach conflicts with national initiatives; and are also due to the low level of development of several departments; lack of co-ordination of the approach; and differences in the needs of Member States. Several suggestions were made as to what actions which could be taken to improve the effectiveness of regional fisheries management (Table 9.2).

Table 9.2 Possible ways of improving effectiveness of regional fisheries management

- | |
|---|
| <ul style="list-style-type: none">• Improved networking for information exchange• Increasing training opportunities• Sensitisation of Government to fisheries issues• Careful selection of consultants• Increase in technical and financial support |
|---|

- *What actions could your own department take to improve the effectiveness of regional fisheries management?*
- *What in your view are the main constraints to making the improvements mentioned in the previous question?*

At the level of the fisheries department, it was suggested that active participation in regional initiatives was the main action that could be taken to improve the effectiveness of regional fisheries management. This participation should involve: clearly setting out the national position; provision of appropriate suggestions, and reports; and follow up/support activities. These efforts may, however, be constrained by political will, availability of personnel, lack of funds, and poor co-ordination of the programme at the regional level.

10. GENDER ISSUES

The objective of this section is to determine the extent to which Fisheries Departments in participating countries are aware of, and active in addressing, women's issues in fisheries management.

- *Can you identify any WID (Women In Development) activities in fisheries in your country?*

Women are largely involved in the distribution and marketing aspect of fisheries. Very few are involved in harvesting and other activities. Table 10.1 summarises some Women in Development activities identified in Member States.

Table 10.1 Women in development activities

Member State	WID activities
Antigua and Barbuda	Only one woman involved in offshore fishing, some are involved in nearshore activities and at beach seining operations women are primarily involved in distribution and marketing.
Barbados	None
Belize	BRWA
Dominica	Processing project in Scotts Head & Newton.
Grenada	Women own 15 percent of boats; almost all vendors are women - 50 women and 10 men full-time, 60 women part-time; nothing specially for women except for FAO training or processing - artisanal level; sometimes women help haul beach seines and work behind the net
Guyana	Women in Fisheries survey in progress to determine opportunities for greater participation of women in fisheries development
Jamaica	None, but some are involved in fish farming
Montserrat	Some projects in the Community Department (details unknown).
St. Kitts and Nevis	One female owner of fishing vessel in Newtown (vessel is leased to fishermen), one female treasurer of Sandy Point Fisher's Coop (three other women are registered in this coop), four women registered in Dieppe Bay Fisher's Coop.
St. Lucia	NR
St. Vincent and the Grenadines	NR
Trinidad and Tobago	None. There are however initiatives in other areas such as health and technology (engineering). It is considered that such initiatives will be a positive development in Trinidad and Tobago

- *How can your department increase the opportunities to include women fisherfolk in the planning of community-based projects?*

Table 9.2 Possible ways of improving effectiveness of regional fisheries management

<ul style="list-style-type: none"> • Improved networking for information exchange • Increasing training opportunities • Sensitisation of Government to fisheries issues • Careful selection of consultants • Increase in technical and financial support

- *What actions could your own department take to improve the effectiveness of regional fisheries management?*
- *What in your view are the main constraints to making the improvements mentioned in the previous question?*

At the level of the fisheries department, it was suggested that active participation in regional initiatives was the main action that could be taken to improve the effectiveness of regional fisheries management. This participation should involve: clearly setting out the national position; provision of appropriate suggestions, and reports; and follow up/support activities. These efforts may, however, be constrained by political will, availability of personnel, lack of funds, and poor co-ordination of the programme at the regional level.

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- *How can your department increase the opportunities to include women fisherfolk in the planning of community-based projects?*

A number of fisheries departments suggested the introduction of special incentives to include women fisherfolk in the planning of community-based projects (Table 10.2). However, others considered an equal opportunity approach to be the best means of achieving this objective.

Table 10.2 Ways of including women fisherfolk in the planning process

Member State	Method
Antigua and Barbuda	Department does not differentiate between the sexes.
Barbados	Special meetings are possible. At present, equal opportunity is provided.
Belize	By having special programmes.
Dominica	Encourage fisheries groups to accept and encourage women to play a role in the organisation; involve women in processing aspects of the industry and in data collection.
Grenada	Programs aimed at women in processing and vendors, participation in coops.
Guyana	Survey to determine opportunities for greatest participation.
Jamaica	By making special loans available to women.
Montserrat	By getting present fisherwoman involved in ongoing activities
St. Kitts and Nevis	Provide incentives which will attract women fisherfolk.
St. Lucia	By making an equal opportunity policy towards employment.
St. Vincent and the Grenadines	NR
Trinidad and Tobago	Organise programmes to introduce women to the opportunities; create greater awareness of their potential and initiate programmes to realise this potential.

- *To what extent does your Fisheries Division have extension services with special programs for women?*
- *Are there any fisherwomen's cooperatives or societies?*

Despite this, there are presently no extension programs specifically directed at women in most Member States. In Barbados, however, the majority of participants in fish handling courses are female fish vendors. Similarly, there are no specific fisherwomen's co-operatives or societies, however, several women are actively involved in these organisations at different levels.

- *What do women see as their most urgent or practical technical need?*

- *Do any other agencies provide special training or opportunities for women?*
- *Are there any other Government Departments or agencies which would support training activities for women fisherfolk?*

It was generally agreed that training, in particular in fish handling and processing, was the most urgent technical need for women in the fishing industry. There was the view that training allowed women to "enhance their traditional roles and generate the confidence [required] to take a more active part in the fishing industry [leading] to the creating of communities with greater self reliance." Training for women in general, but not specific to fisheries, could be obtained from a number of women's organisations, governmental and non-governmental agencies (Table 10.3). In addition to these, a number of Government departments were identified as supporting training activities for women fisherfolk. These are summarised in Table 10.4.

Table 10.3 Training opportunities for women

Member State	Agency
Antigua and Barbuda	Department of Women's Affairs
Barbados	Women in Development
Grenada	Grencola, Grencoda, Agency for Rural Transformation
Guyana	National Women's Bureau, Department of Social Welfare and Culture
Jamaica	4H; Ministry of Agriculture
St. Kitts and Nevis	Ministry of Health and Women's Affairs
Trinidad and Tobago	Various tertiary and adult education programmes.

Table 10.4 Government agencies supporting training activities of women fisherfolk

Member State	Agency
Antigua and Barbuda	None
Barbados	Ministry of Community Development and Bureau of Women's Affairs
Belize	None
Dominica	Community Development, Youth Division, Adult Education
Grenada	Cooperatives
Guyana	National Women's Bureau, University of Guyana Women's Students Unit
Jamaica	Ministry of Agriculture; Ministry of Labour Welfare and Sports
Montserrat	Community Department
St. Kitts and Nevis	Department of Woman's Affairs
St. Lucia	None
St. Vincent and the Grenadines	NR
Trinidad and Tobago	None

- *How can your Department ensure that CFRAMP training opportunities are more accessible for: (a) community women; (b) female extension officers.*
- *Should there be special incentives or quotas to ensure that more female Fisheries Officers are recruited?*

Increased targeting of women, through extension programs, workshops, etc., was seen as a means of ensuring that CFRAMP's programs were more accessible to community women. It was agreed that an equal opportunity approach should be taken in selection and training of extension officers where positions existed. Similarly there was a general consensus that special incentives or quotas to ensure that more female Fisheries Officers be recruited were unnecessary. Even though an effort should be made to make females more aware of available vacancies, the onus should be on filling positions with the best qualified persons of either gender.

10.1 Employment of Women in Fisheries Divisions

All fisheries Divisions with the exception of St. Vincent and the Grenadines employ women. On average 25 % of the staff of all Fisheries Divisions are women (Figure 10.1). In St. Lucia and Trinidad and Tobago, however, approximately half of the staff is made up of women, as compared to Belize and Grenada where less than an eighth of the staff are women.

Women generally constitute at least fifty percent of the headquarters staff (Table 10.5). In Barbados, Dominica, Jamaica, St. Lucia and Trinidad and Tobago women serve in the posts of fisheries officer, assistants or part of the scientific staff (Table 10.6). In most Fisheries Divisions, however, women are involved in clerical or administrative procedures.

Table 10.5 Comparative employment of males and females in Fisheries Divisions

Member state	Headquarters		Field		Dual		Vacant
	Male	Female	Male	Female	Male	Female	
Antigua and Barbuda	4	4	6	2	-	-	5
Barbados	-	-	1	5	16	6	2
Belize	5	2	7	-	-	-	2
Dominica	-	1	3	1	3	-	1
Grenada	-	1	6	-	2	-	-
Guyana	11	6	-	-	-	-	13
Jamaica*	20	12	11	-	-	-	8
Montserrat	1	1	1	-	-	-	1
St. Kitts and Nevis	2	-	-	-	-	-	1
St. Lucia	2	5	4	-	3	3	-
St. Vincent and the Grenadines	NR	NR	NR	NR	NR	NR	NR
Trinidad and Tobago	4	16	15	6	-	-	2

* gender of holders of 6 posts unspecified

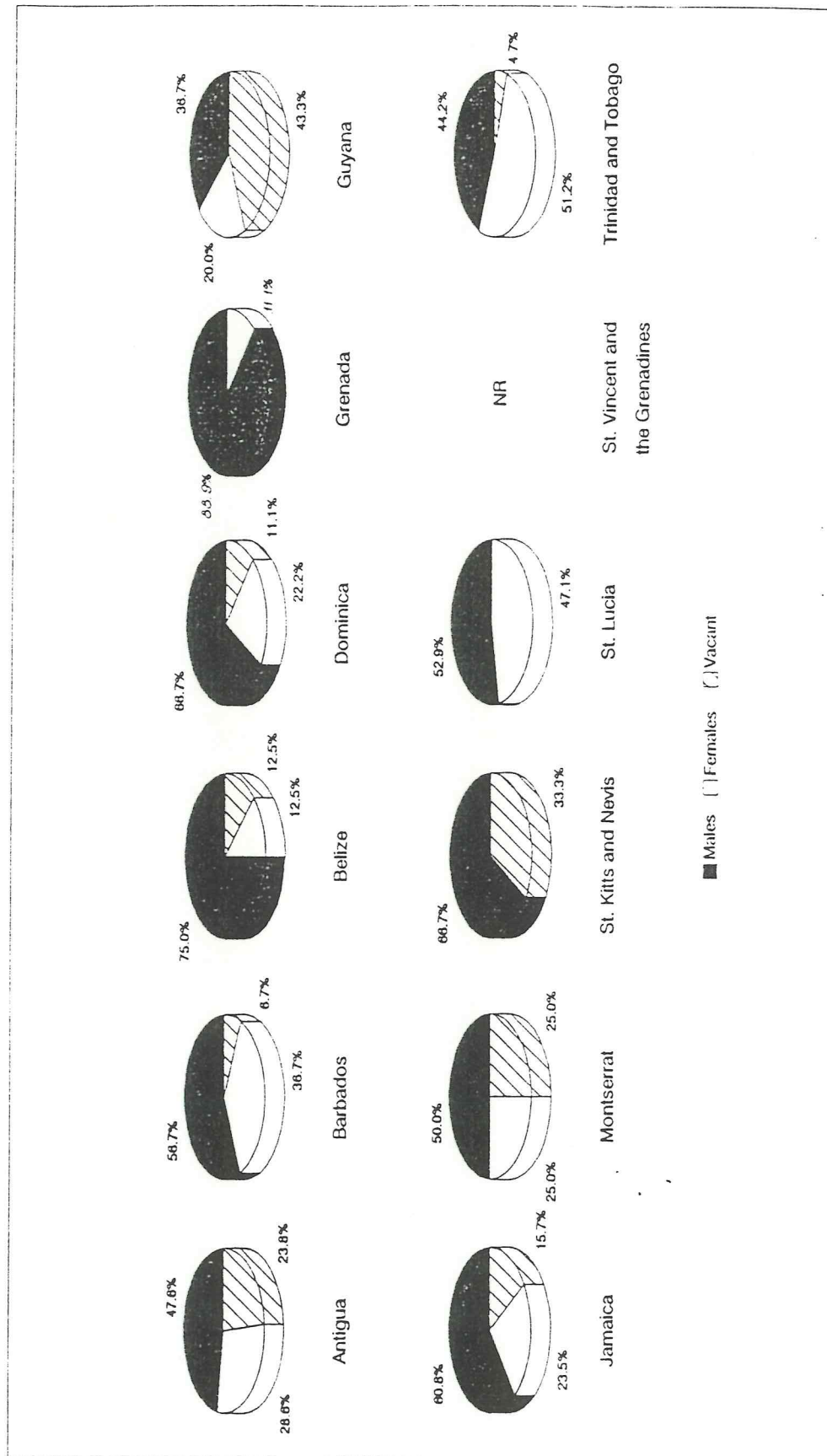


Figure 10.1 Comparison of staffing by gender of Fisheries Divisions

GENDER ISSUES

Table 10.6 Positions held by females in Fisheries Divisions

Member state	Positions held by females
Antigua and Barbuda	Graduate Assistant, Data Collector, Petty Officer, Clerk, Typist
Barbados	Senior Fisheries Assistant, Fisheries Assistant, Clerical Officer, Clerk, Typist, General Worker, Caretaker
Belize	Clerk, Typist, storekeeper
Dominica	Fisheries Officer, Fisheries Liaison Officer
Grenada	Stenographer/Typist
Guyana	Fisheries Inspector, Data Collector, Confidential Secretary, Clerk, Cleaner
Jamaica	Fisheries Officer, Accountant, Clerk, Administrative Officer, Telephone Operator, Stenographer
Montserrat	Clerk
St. Kitts and Nevis	None
St. Lucia	Fisheries Biologist, Aquaculturist, Fisheries Assistant, Secretary, Clerk, Office Assistant
St. Vincent and the Grenadines	NR
Trinidad and Tobago	Fisheries Officer, Lab/field Assistant, Clerk, Data Assistant

11. SUMMARY AND CONCLUSIONS

11.1 Responses

The participating countries provided their responses to the questionnaires promptly. Many of these were completed in interviews with CFRAMP staff. However, in several cases, acquisition of the supporting information proved to be difficult and time consuming. Several Fisheries Officers noted that the materials requested were not readily accessible, available in one copy only, or otherwise difficult to provide. In many instances Fisheries Officers appeared to have difficulty in finding the time to acquire and compile the information requested. It appears that certain basic types of information regarding Fisheries Division structure and function and fisheries management are not readily at hand in Fisheries Divisions, in a documented form.

The following attempts to summarise the fisheries management and research situation in participating countries according to the sections of the report, is complicated by the high degree of variability, particularly among the non-OECS countries.

11.2 Legislation and Regulations

The legislative and regulatory framework for fisheries management has been long established in the participating countries, which can be viewed in two groups. In the OECS Member States, the harmonised fisheries legislation provides an up-to-date basis for management, and accompanying regulations are either in place, or are being passed in most Member States. In the remaining countries, the situation is more varied. A move towards harmonising fisheries legislation throughout CARICOM³ did not result in widespread harmonised legislation. Barbados was the only country to respond with updated legislation.

In several countries, legislation pertaining to fisheries and fishery habitats is contained in several acts, e.g. Fisheries, Wildlife, Maritime Boundaries, Coastal Protection. The effort by Trinidad and Tobago, to compile all relevant legislation and regulations into a single volume greatly facilitates understanding of the fisheries legislative framework in that country.

Although all participating countries do enforce some regulations, there appears to be a general lack of resources for surveillance and enforcement. This is an area which clearly requires greater attention if fishery management measures are to be effective. The paucity of resources for surveillance and enforcement throughout the region indicates the importance of promoting the participation of the fishing industry and fishing communities in management.

³ FAO/WECAFC/CARICOM Workshop on Fisheries Legislation, Barbados, May 6-12 1986.

11.7 Fisheries Statistics and Data Collection Systems

All fisheries departments had overall responsibility for the collection and management of fishery statistics. Frequently, other Departments or Ministries were responsible for collecting some fishery statistics. No country had a comprehensive data collection and management system which produced regular reports of catch and effort by species. The most comprehensive system was in Barbados, but even there, the detailed data were not computerised.

Throughout the OECS, and in Barbados, data collection systems had been designed⁵, but had not been implemented for various reasons.

11.8 Information Available for Fisheries Management

Those countries which responded indicated that they received a variety of published information relating to fisheries management. Most of this was in the form of newsletters, and FAO technical reports. ICLARM materials were also widely available throughout the region.

11.9 Regional Fisheries Management Mechanisms

The respondents indicated that there was very little by way of operational management at the regional level. They did, however, indicate that there had been a trend of increasing awareness of regional issues over the past five years. The OECS Fisheries Unit was cited as an important contributor in this area.

11.10 Gender Issues

Women are involved in the fishing industry primarily at the processing and distribution levels. There is an awareness among participating countries, of the need to enhance the opportunities for the involvement of women in the fishing industry. However, there were very few programs targetted specifically at women.

APPENDIX 1: DETAILED RESPONSES TO THE QUESTIONNAIRE

This appendix is 130 pages in length, and is available from the CFMU or the RAU in St. Vincent and the Grenadines, on request.

⁵ OECS Fishery Report No. 2, Loc. cit.