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# **GRENADA CASE STUDY: LEGALISATION OF BEACH SEINE TRADITIONAL RULES AT GOUYAVE**

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in association with the  
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## Executive summary

Traditional fishery rules are poorly documented in the eastern Caribbean. An outstanding exception is the work of James Finlay, the recently retired head of the fisheries authority in Grenada. His thoroughly documented research and industry consultations on the beach seine rules in Grenada have led to them being recommended for legalisation. This case researched how fisheries stakeholders and the government may approach this in the case of Gouyave, a west coast town known as the fishing capital of Grenada, where beach seining for coastal pelagics and small-scale longlining for tunas are very interactive fisheries. A variety of conflicts have arisen out of these interactions.

Although the recommendation to reduce conflict through legislation has been made, and seems to be agreed with by the fishing industry based on previous consultations, it is not clear if or how the process will proceed. A critical factor is the extent to which legislation will allow local level interpretation and development of the rules to continue. Caribbean fisheries legislation is not known for its flexibility and scope for adaptation. This community-based control is likely to be feasible only if the fishery stakeholders in Gouyave desire this level of power and responsibility.

Gouyave, the fishing capital of Grenada, would seem to be an excellent candidate for a location in which fisheries management could be led by the community. Yet, although it has a rich history of fishing organisation formation, there has not been much success in sustaining these groups despite external assistance. The most successful organisations in Gouyave rely on a small cadre of professionals and businesspeople. Within the fishing community there is less motivation for the seine fishers to become organised than there is for the longliners. The latter could benefit from collectively bargaining with fish buyers and the government. The seiners' primary collective interest would be in several arenas of conflict management.

The findings concerning the interaction between nets and boats in the bay, and the legalisation of the traditional rules, are consistent in showing that the fishers have no interest in, or capacity for, taking on the responsibility of managing the fishery without considerable support and direction from government. The fishers have concluded that there is no respect for rules formulated through community structures and processes. This lack of respect and the ineffectiveness of social sanctions is said to be strongest among the younger generation of fishers. This young generation is also prominent in the operations of the longline fishery with which the fortunes of the beach seine fishery are intertwined.

The lack of confidence in the community to solve its problems has led to dependence on government to provide solutions. However, the fisheries authority does not have the capacity to serve as a conflict manager. Consequently, the most probable option is to design a legal structure and process that is responsive to the particular needs of the fishery and less cumbersome than the normal judicial process. The fishers have undertaken exercises in preparation for this and are intent on retaining a level of interest and control that is consistent with co-management. The major remaining challenge is to convince the top political decision-makers that this approach to legalisation is likely to be successful.



## 1 Introduction

The purpose of the Caribbean Coastal Co-management Guidelines Project is to ensure that mechanisms for implementation of integrated pro-poor natural resource management in coastal zones are developed and promoted. This is assisted by understanding the requirements for establishing successful co-management institutions for coastal resources under various conditions in the Caribbean. These ideals reflect the policy and objectives of the United Kingdom (UK) Department for International Development (DFID) on eliminating world poverty. The project is part of the Natural Resources Systems Programme (NRSP) Caribbean programme for Land Water Interface (LWI) production systems. This component of the NRSP has the purpose: *“Benefits for poor people in targeted countries generated by application of new knowledge to natural resources management in the land water interface”*. It entails:

- ❖ An understanding of livelihood strategies;
- ❖ An understanding of natural resource management opportunities;
- ❖ Identification of the means to implement management opportunities relevant to the poor.

The project is a response to a September 2001 call for proposals from the NRSP to implement parts of the LWI logical framework (or logframe) (Box 1.1).

### *Box 1.1 Structure of call for proposals*

Output 1: Improved resource-use strategies in coastal zone production systems developed and promoted

Activity 1.3: Mechanisms for implementation of integrated pro-poor natural resource (and pollution prevention) management in coastal zones developed and promoted

Sub-activity 1.3.1: Mechanisms for the improvement of sustainable livelihood outcomes for poor people living in coastal zones through integrated participatory resource management and prevention of pollution developed and promoted

Sub-activity 1.3.1, milestone (b): Understanding the requirements for developing successful co-management initiatives and mechanisms for promoting them

Target region: Caribbean

Source: DFID-Natural Resource Systems Programme

Project implementation is lead by the Caribbean Conservation Association (CCA) under its Coastal and Marine Management Programme (CaMMP). Project partners are the Marine Resources Assessment Group Ltd. (MRAG) of the UK and the Natural Resources Management (NRM) Programme of the University of the West Indies (UWI) Cave Hill Campus in Barbados where the CCA has its office. The execution period is 1 April 2002 to 30 June 2003 (15 months) with a budget of £87,112 (or approximately \$125,000 US dollars).

The Caribbean Coastal Co-management Guidelines Project seeks to ensure that people in the Caribbean, especially the poor, can effectively engage in successful partnerships with government for sustainable livelihoods in the context of well-managed coastal resources. The study addresses both the natural resource and human institutional aspects of co-management. Through a series of participatory investigations in case studies of conditions that favour, or do not favour, the co-management of coastal and marine resources at selected sites the project

derives guidelines for developing successful co-management in the Caribbean. Uptake is promoted by interaction with target institutions and potential beneficiaries, and wide dissemination of outputs. The project's main outputs are listed below.

1. Selection of co-management analysis research framework
2. Ecological and environmental assessments of the natural resource systems and their utilisation
3. Institutional, socio-economic, cultural, political and other human dimension assessments
4. Comparison of how the natural resource and human factors assessed in 2 and 3 favour or constrain the establishment of successful, pro-poor and integrated co-management
5. Development of regionally applicable guidelines on successful, pro-poor and integrated co-management in the wider Caribbean
6. Capacity of target institutions and beneficiaries for co-management built through project participatory processes

This case study report is intended for access and uptake by a broad readership. Readers are also guided to the project's newsletters, reports and published papers for further information. The information generated from this and other case studies is synthesised in a comparative analysis. Guidelines for successful co-management are developed from these outputs.

In the next chapter, the research framework and methodology are described, followed by socioeconomic dimensions of the case, including poverty. Resource system and human system institutional analyses precede descriptions of exogenous factors, incentives to cooperate and patterns of interaction. Outcomes and performance are analysed prior to the final chapter discussion and conclusions on the lessons learned about what conditions may favour successful co-management in this case.

## **2 Research framework**

This section sets out concepts that guide the research based on previous work in coastal co-management around the world. It sets the stage for presenting the case study results.

### **2.1 Definitions and concepts**

Definitions of co-management focus on sharing management responsibility and authority between government and stakeholders (e.g. Pinkerton 1989; McConney 1998; Brown and Pomeroy 1999; Pomeroy 2001; Berkes et al. 2001). The fundamentals of what co-management should be, and is in practice, have been extensively researched (Jentoft 1989; Kuperan and Abdullah 1994; Pomeroy and Berkes 1997). Co-management encompasses several possible arrangements that are often depicted as a scale constructed from the relative sharing of responsibility and authority between government and stakeholders (Pomeroy and Berkes 1997; Berkes et al. 2001) (Figure 2.1).

As for participation (Arnstein 1969), there are various positions on the scale, and authors use different terms for co-management and its degrees. For example, the Caribbean Natural Resources Institute (CANARI) uses "participatory management" (see extensive document list at [www.canari.org](http://www.canari.org)). The terms participatory management or co-management are gaining popularity in Caribbean government and NGO circles, and among some resource users (Almerigi et al. 1999; CANARI 1999; CANARI 2000; CANARI 2001; CCA 2001). These concepts, however, are not always fully understood by their users. Conceptual and practical research issues therefore include the degrees of co-management and which terms to use.

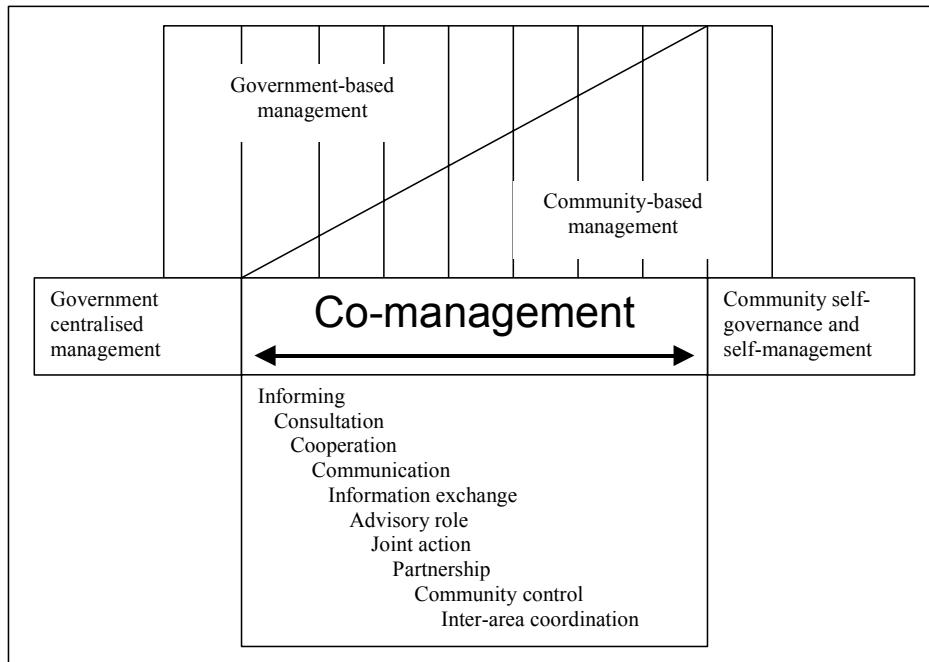


Figure 2.1 Sliding scale showing various degrees of co-management (based Pomeroy and Williams 1994)

Based on international and Caribbean literature it was determined that three degrees and labels would be appropriate (Figure 2.2). The first is “consultative co-management” which represents what is most common in several locations (Brown and Pomeroy 1999). People commonly use and understand the term consultation.

	<b>Consultative co-management</b>	<b>Collaborative co-management</b>	<b>Delegated co-management</b>	
<i>Government has the most control</i>	Government interacts often but makes all the decisions	Government and the stakeholders work closely and share decisions	Government lets formally organised users/stakeholders make decisions	<i>People have most control</i>

Figure 2.2 Degrees and labels of co-management

Adapted from: ICLARM and IFM 1998

Next is joint action and decision-making. This is where several countries seem to be headed. The term “collaborative co-management” was preferred to “cooperative co-management” because it connotes stronger partnerships, and the use of “cooperative” may be confused with the formal organisation types of the same name (Kurien 1988; McConney et al.1998).

Third is “delegated co-management” that includes, but is not limited to, community-based management since national co-management structures are especially common in fisheries management (Jacobs 1998; McConney and Mahon 1998). Few cases in the Caribbean appear to be at this level, but it is not uncommon in other areas of the world (Baird 2000).

Establishing successful co-management is seldom immediate. Like most participatory processes it takes time and careful tending. Pomeroy (1998) recognises three phases of co-

management and describes the sequence of steps within these in some detail. A much-simplified version is in Figure 2.3.

Pre- implementation →	Implementation →	Post- implementation
Realise need for change	Try out new management	Maintain best arrangements
Meet and discuss change	Educate people in new ways	Resolve conflicts and enforce
Develop new management	Adjust and decide what is best	Accept as standard practice

Figure 2.3 Phases of co-management

Based on: Pomeroy 1998

Like cases in Africa (Normann 1998; Sverdrup-Jensen and Nielsen 1999), the Caribbean is generally at the pre-implementation or early implementation phase (McConney and Mahon 1998; McConney 1998). A few situations such as the Soufriere Marine Management Area (Renard 2000) may be mature enough to be labelled post-implementation. A very significant consequence is that neatly comparing “before” and “after” conditions arising from a co-management intervention such as a discrete project will be less feasible in the Caribbean than other locations such as in Asia where much of the literature on methodology originates (e.g. Pomeroy and Carlos. 1997; Pomeroy et al. 2001).

## 2.2 Research framework

The International Centre for Living Aquatic Resources Management (ICLARM) and Institute for Fisheries Management and Coastal Community Development (IFM) (ICLARM and IFM 1998) developed the methodology referred to above for the African and Asian cases (Figure 2.4).

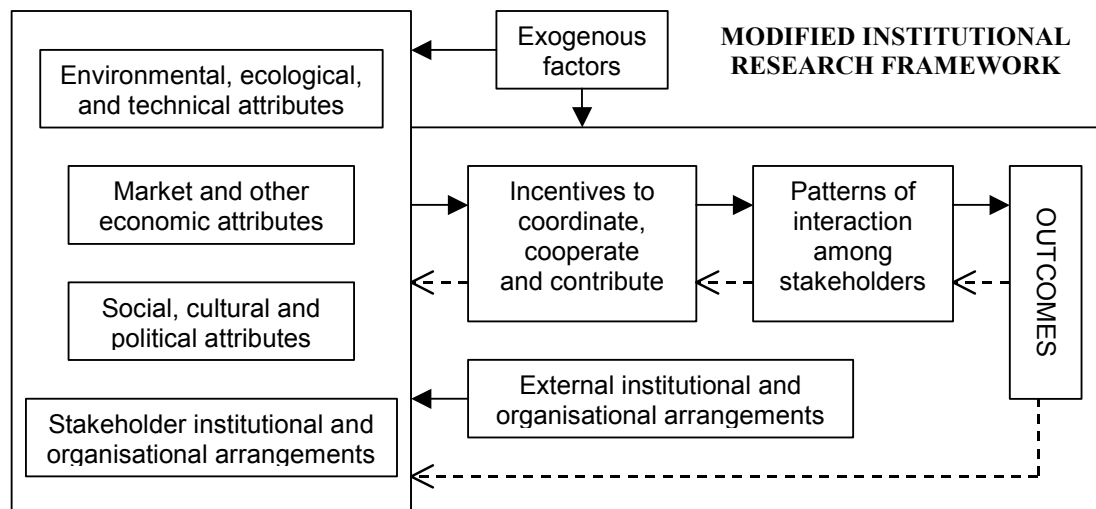


Figure 2.4 Modified ICLARM/IFM Institutional Analysis and Design Research Framework

The main analyses conducted within the framework are in Box 2.1. They are reflected in the logical framework for this project in terms of the assessments to be performed. Institutional analyses are of critical importance in researching co-management (Renard 1991; Noble 2000).

*Box 2.1 Main analyses included in the framework*

1. Institutional Arrangements Analysis: This component links contextual variables characterizing key attributes of the resource (biological, physical) and the resource users (technology, market, social, cultural, economic, political) with the management institutional arrangements (rights and rules). The contextual variables are each composed of a number of attributes. A causal relationship exists among and between the contextual variables, the institutional arrangements (the focus of the analysis) and the resulting transactional (action) situations. The institutional arrangements and the contextual variables affect the actions of the resource users and authorities responsible for fisheries management by shaping the incentives and disincentives they have to coordinate and cooperate in resource governance, management and use; the incentives, in turn, shape the patterns of interaction and behaviour between the co-management partners, i.e. the types of co-management arrangement established and the way it functions.

2. Co-management Performance Analysis: The co-management arrangement results in outcomes. These outcomes will, in turn, affect contextual variables as well as behaviour of resource users, other stakeholders and public authorities. Time is a critical element. All the contextual variables can change through time. This may cause change in institutional arrangements which, in turn, affect incentives, patterns of interaction and outcomes. The outcomes of co-management institutional arrangements can be evaluated in terms of e.g. management efficiency, equity, and sustainability of resource utilisation.

3. Characteristics of Successful Co-management Institutional Arrangements: The most important aspect of this analysis is the specification of what conditions and processes bring about successful long-enduring, fisheries co-management arrangements. From the analysis we can identify a list of principles and propositions about conditions and processes.

Source: ICLARM and IFM 1998

This project pays particular attention to integrated and pro-poor coastal management. Since poverty concepts may be new to some readers, a few words on the topic are warranted.

### **2.3 Pro-poor perspectives**

DFID-NRSP (2001) emphasises the importance of a systems perspective on what is poverty and pro-poor, and how to address them. The concepts of poverty and the development of pro-poor strategies are complex social, cultural and economic issues (Centre for Development Studies 2000). Eradication or alleviation of poverty is often accompanied by attention to sustainable livelihoods (Carney 1998; Geoghegan and Smith 1998; Dorward et al. 2001).

In the Asia-Pacific region the focus is on alternative livelihoods since coastal resources are severely depleted and habitats are degraded. In the Caribbean, resources are often still adequate for use to be sustainable if supplementary livelihoods are found to ease the pressure without completely changing lifestyles. For example, fishermen displaced by MPAs in Belize are being re-trained to be fly-fishing and nature tour operators to obtain additional income in the tourist season, and facilitate increased compliance with fishing restrictions (Heyman and Hyatt. 1996; Heyman and Graham 2000).

Although the above initiative may be considered a pro-poor strategy it does not necessarily mean that it was specifically intended and designed as such. Poverty and pro-poor orientation by objective and implementation were not prominent in a recent institutional characterisation of

Caribbean MPAs (Geoghegan et al. 2001). Statements such as improving welfare and the quality of life, without explicitly mentioning poverty, are more typical of planning documents for small-scale fisheries in the region (e.g. Government of Barbados 1993). Research must note direct and indirect, positive and negative impacts on poverty by both public and private sector initiatives. The attention of Caribbean governments to poverty has been relatively recent in most places. Poverty assessment studies from the mid-1990s to the present provide fairly current data for most countries (e.g. Kairi Consultants 1999a and b).

Institutional analysis provides insight into how social and economic institutions interact with each other and contribute either to the perpetuation or reduction of poverty. Poverty in the Caribbean is often associated with youth and female-headed households, making age and gender important variables (Brown 2001). There are chronic, structural and seasonal poor in the Caribbean, with fishers as an example of the latter (Brown 2001). Fishers and other coastal resource users in the informal sector may easily slip through the net of employment surveys.

Often critical to the success of co-management is the extent to which community-based organisations can engage in poverty eradication and alleviation (Centre for Development Studies 2000). This encompasses empowerment and the concept of “voice”. Pro-poor strategies must address causes that operate at the micro as well as the macro levels, and ensure that government policy effectively engages these causes either directly or by creation of an environment that facilitates positive action by other entities (Brown 2001).

### **3 Case study overview**

The six selected case studies, two each in Barbados, Belize and Grenada, are summarised in Appendix 1. Traditional fishery rules are poorly documented in the eastern Caribbean. An outstanding exception is the work of James Finlay, the recently retired head of the fisheries authority in Grenada. His thoroughly documented research and industry consultations on the beach seine rules in Grenada have led to them being recommended for legalisation. This project is researching how fisheries stakeholders and the government may approach this in the case of Gouyave, a west coast town known as the fishing capital of Grenada, where beach seining for coastal pelagics and small-scale longlining for tunas are very interactive fisheries. A variety of conflicts have arisen out of these interactions.

The case researches the options available for institutionalising the beach seine traditional rules and managing conflict between the fisheries. Although the recommendation to reduce conflict through legislation has been made, and seems to be agreed with by the fishing industry based on previous consultations, it is not clear if or how the process will proceed. Through participatory research, including focus groups, surveys and workshops, it is hoped that the options for the way forward become clearer to all stakeholders. The project will examine the extent to which the recommended or available arrangements constitute co-management. The parties will together determine what conditions are most likely to make the process successful and the outcomes sustainable.

A critical factor is the extent to which legislation will allow local level interpretation and development of the rules to continue. Caribbean fisheries legislation is not known for its flexibility and scope for adaptation. This community-based control is likely to be feasible only if the fishery stakeholders in Gouyave desire this level of power and responsibility. The findings are likely to be of interest to neighbouring countries that also have beach seine fisheries, and to a wider audience interested in participatory approaches to formalising coastal traditions.

## 4 Research methods

The general action research methods used in the case studies include.

- ◆ Document analysis
- ◆ Questionnaire surveys
- ◆ Semi-structured interviews
- ◆ Focus groups, informants
- ◆ Workshops and seminars
- ◆ Periodic e-mail, newsletters
- ◆ Transfer of skills and concepts

The cases in this project are mainly in pre-implementation or early implementation phases of co-management. Emphasis is on understanding the conditions and factors for successful co-management as perceived by the stakeholders at the research sites. Because an objective of the project is uptake of co-management concepts and practices that may lead to success, there is active promotion of co-management through frequent engagement of the stakeholders and target institutions in the research. This is participatory action research.

Initial scoping was performed through document analysis and key informant interviews. For the duration of the study a senior fisheries officer and resident of Gouyave, Roland Baldeo, assisted the research. Later, doctoral research student, Sandra Grant, also provided invaluable help. The fieldwork included small questionnaire surveys mainly of seine and longline fishers, fish vendors and seine net owners. However, most information was collected through personal interviews using interview guides, and through observation at the market place and on the beach.

Three major workshops were held. The first was a focus group on what coastal conflicts existed, and whether or not the traditional rules needed to be legalised. The second was a larger workshop on the details of the seine fishery and conflicts, with emphasis on the procedure for putting the rules into legal format. The third was a workshop that followed-up on the process recommended, where a legal adviser assisted in explaining options and consequences based on the preferences of the seine fishers. The recommended arrangements were outlined and an examination of their co-management context was undertaken.

During these activities, communication was maintained through electronic mail and the project newsletters. However the absence of a viable fishermen's organisation in Gouyave at the time constrained the dissemination of information to some fishers. It was apparent also that the fishers responded much better to oral communication and investigation than to written work or materials. None of the workshops required participants to write and the researcher made efforts to talk to key contacts on almost every site visit.

## 5 Resource assessment

Figure 5.1 illustrates a framework for resource assessment, putting the resource in the context of integrated coastal management, and noting the linkage between harvesting and marketing that partly determines livelihood strategies.

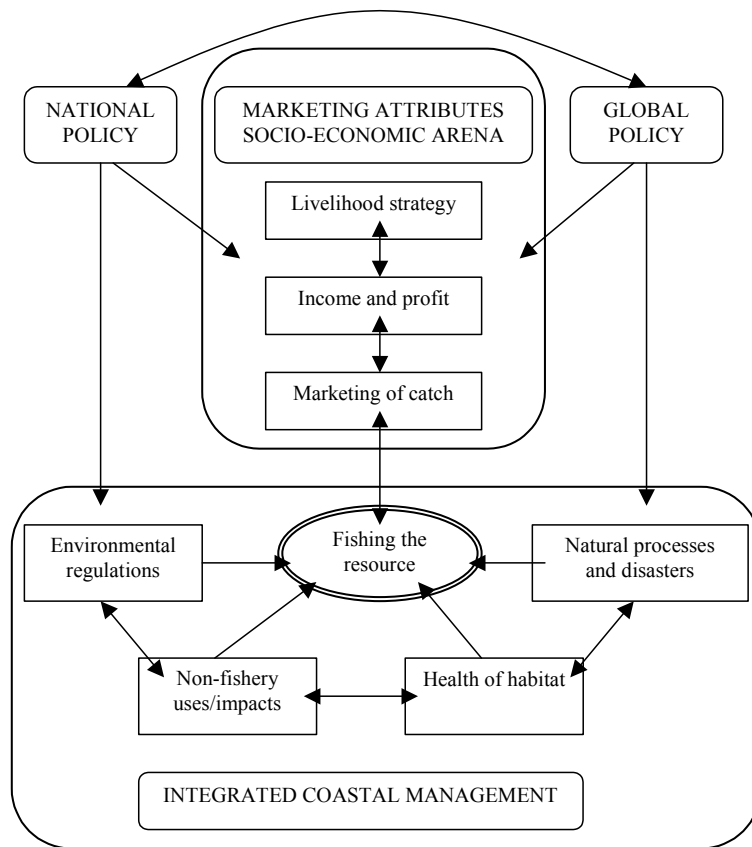


Figure 5.1 Framework for resource assessment

## 5.1 Geography

Grenada is a small island developing state (SIDS) in the eastern Caribbean. It comprises the main island by that name, the inhabited islands of Carriacou and Petit Martinique, and several uninhabited smaller islands mainly off the northeast and southeast coasts. The country is located in the Caribbean Sea between latitudes 11.5 and 12.5 degrees North and longitudes 60 and 61 degrees West (Figure 5.2). The main island of Grenada has a width of 18 km, a length of 34 km, a coastline of about 121 km, an area of 340 km<sup>2</sup>, and its highest point reaches nearly 900 m. Carriacou, located 24 km to the northeast of the mainland, is much less mountainous and has an area of 34 km<sup>2</sup>. Petit Martinique is 2.3 km<sup>2</sup> and lies east of the northern part of Carriacou. Grenada has a relatively large insular shelf area of 3,100 km<sup>2</sup>. The shelf is narrow on the western coast, extending from shore less than a kilometre to 200 metres depth. From the southeast to the northeast, the shelf varies in width between 4 and 12 km, and extends to the west-southwest in a 19 km wide tongue for about 32 km. Depths on the shelf vary from 40 – 80 m with average depths of 30 - 40 metres. In the Grenadines the shelf is from 20 - 60 metres deep over the greater part of the area. Ocean currents generally flow from the east-southeast towards the northwest. Gouyave is located on the west coast (Figure 5.3).



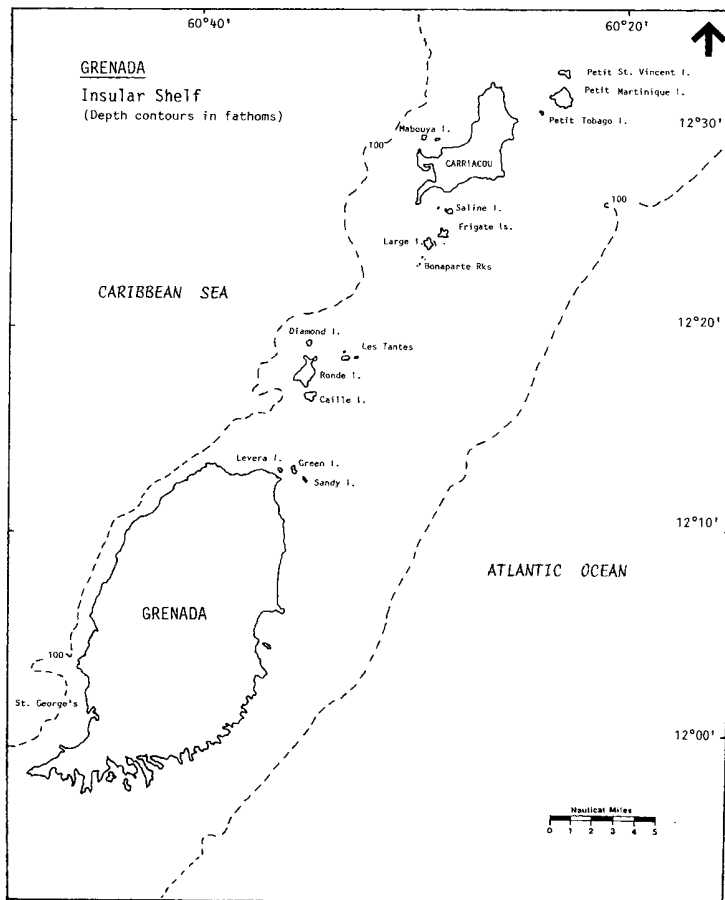


Figure 5.2 Grenada and the Grenadines shelf

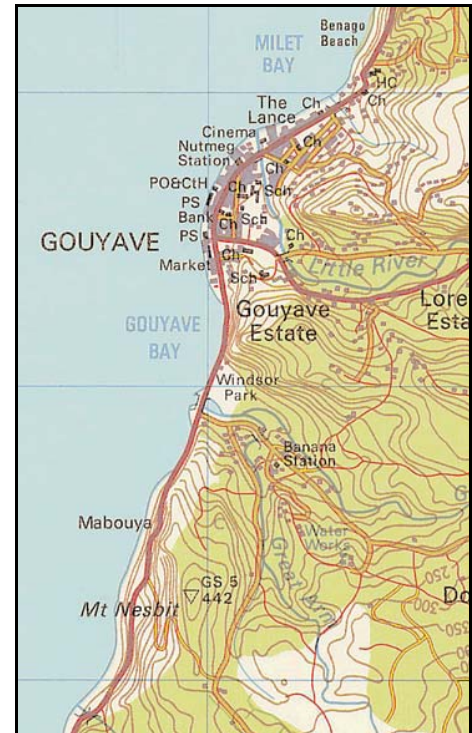


Figure 5.3 Gouyave is the fishing capital of Grenada

## 5.2 Caribbean seine fisheries

Seine net fishing is widespread throughout the Caribbean though poorly documented in most places. This is probably because seine fishing is a small-scale operation that takes place inshore from numerous rural villages and landing sites. Such fisheries are difficult to monitor and are usually poorly known. Seines are used to target a wide variety of small coastal pelagic species and juveniles of larger offshore species that are schooling inshore. They are most often hauled onto beaches, but can also be pursued offshore when the shoreline is not suitable. Seines are most effective in quiet bays with sandy bottoms and few obstructions to snag the net.

## 5.3 Seine fishery in Grenada

The beach seine fishery in Grenada has been thoroughly researched and described by Finlay (1984, 1995). It targets a multispecies stock of coastal pelagic species in bays around the islands of Grenada, Isle de Ronde and Carriacou (Figure 5.4). The main species are jacks, round robins, rainbow runners, sprats and anchovies. A small proportion of the catch also comprises juveniles of oceanic pelagic species such as tunas.

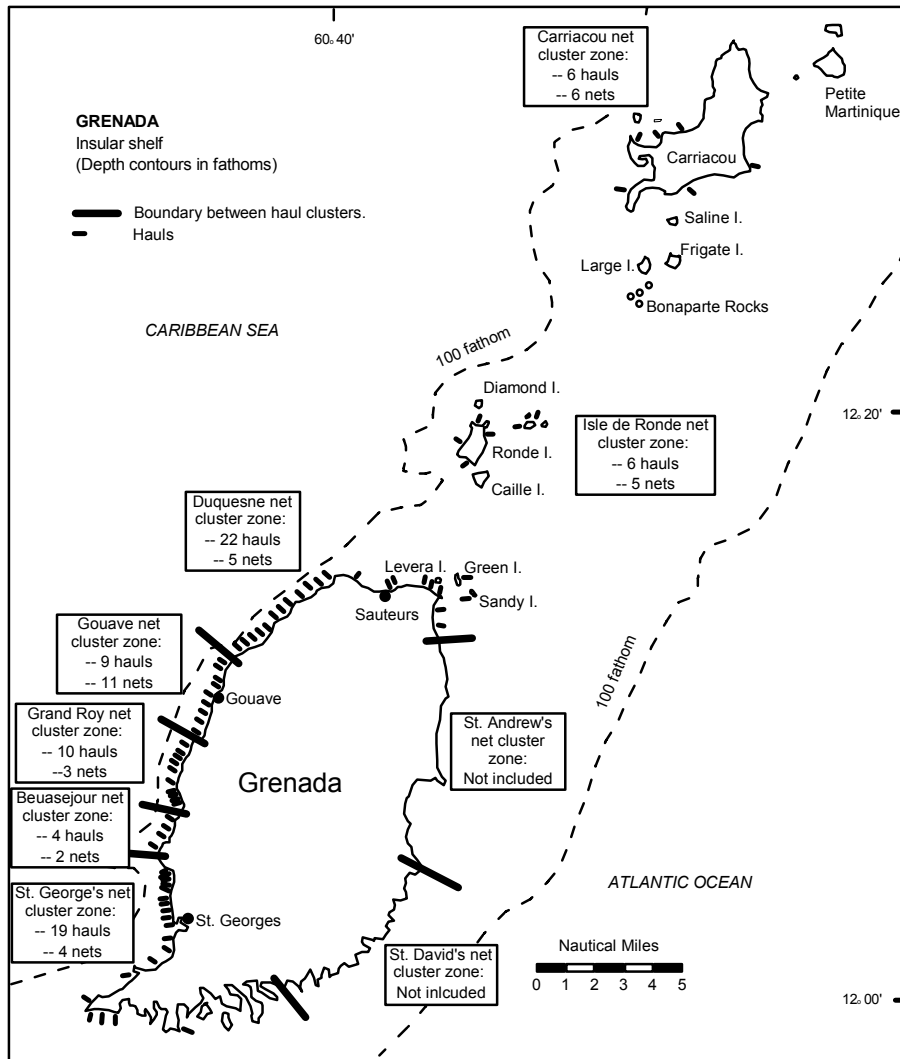


Figure 5.4 The distribution of seine net hauls in Grenada (After Finlay 1995)

In 1994, there were 41 large beach seines operating in Grenada, manned by 289 fishers. Net units are operated by groups of six to eight fishers who position themselves at a fishing location and take turns at fishing. Fishing practices are governed by a well-defined set of traditional rules enforced at the haul by the seine net community. In recent years, increasing competition and conflict among seine nets and also between seine nets and non-fishing coastal sea-users have tended to disrupt the traditional practices necessitating consultations to decide on agreed upon management measures.

The process of formalising the system of informal rules for seine fishing in Grenada has been ongoing since 1982 when the Chief Fisheries Officer became aware that there was an informal system. In the following years he interviewed many seine fishers and interpreted, compiled and documented the rules. These were then reconfirmed with groups of fishers in meeting at all major fishing areas and formulated into a set of rules that they could endorse for adoption by the

government as regulations (Box 5.1). a survey to determine fishers' views concerning beach seine fishing practices showed that 97% of captains strongly support legalising these traditional rules.

*Box 5.1 Beach seine fishing rules in Grenada*

**#1 Staking claim at the haul – *The haul claim rule:*** A net must anchor in the haul and tie the stern line to the shore in order to get right to make a cast.

**#2 Nets take turn – *Turn sequence rule:*** If several nets come to the haul and take up position in sequence, i.e. A, B, C, etc. then each net is entitled to fishing opportunity (cast) in the same order.

**#3 Absence of sufficient crew – *Sailors absent rule:*** If seines A, B, and C are waiting for a turn in that order but, the crew of seine A is absent or not enough of them are present; then seine B may cast for the fish; however seine A retains its turn to cast, then seine B goes last in line.

**#4 One cast rule:** Each net has only one fishing opportunity (cast) at a time.

**#5 Permission to cast rule:** If seine net A, B and C are waiting fishing opportunity in that order, but net A does not wish to cast immediately, then net B may be given permission to cast. If net A grants permission and net B casts, then net A retains its right to the next cast while net B goes to the last position.

**#6 Double haul rule:** Where there are two hauls within a bay the first net to come to the bay may anchor at the boundary of the two hauls and has the right to choose either haul. If then, another net comes into the haul that second net must ask the first net which haul he may have. Once the first net chooses a haul the second net becomes the owner of the other haul. Any other net coming into the bay must wait in line at either one or the two hauls.

**#7 Stern line rule:** Except in high seas conditions, any net without stern line tied to the shore has no claim to the haul.

**#8 Beating fish rule:** No haul right shall be claimed for beating fish (i.e. oceanic pelagic fish feeding in frenzy and bleaching within the haul-reach).

**#9 Chase or race rule:** When two or more seine nets are chasing at a school of fish at or near a haul: the first net to encircle (cover) the school of fish and drop its stern line on the shore wins the school.

**#10 Spent cast rule -- *The fondcier or cast rule:*** A single cast (turn) is considered spent when the net is cast as far as the center of the fondcier; if any part of the net before the center of the fondcier is not cast then the net may be barque over board and keep the turn.

**#11 Captain responsible for sharing rule – *share rule:*** Half the gross catch goes to the net while the other half goes to the net crew and captains; the captain is responsible for sharing all proceeds of catch.

**#12 Removal of inactive seine rule – *Anchored easement rule:*** Anchored beach seines waiting in line or anchored at the haul, are obligated to allow the current holder of a turn to remove the anchored seine and later position it after making the cast.

**#13 Recruit helps rules:** When the net captain deliberately calls on helper to haul at the net then the captain is obligated to give that helper  $\frac{1}{2}$  or  $\frac{3}{4}$  of the normal seine-man share.

**#14 Volunteer helpers rule:** If the captain of the seine net notices a helper hauling at the rope then the captain either asks the helper to let go of the hauling rope or else he is obligated to give all helpers a small j'ai hale.

**#15 No ring net** that does not take up turn at the haul shall be allowed to cast at fish within 350 meters (800 ft.) of a designated haul.

The beach seine can only be operated in areas with appropriate substrate. Therefore, there is a definite number of operable sites within the country. Each of these sites is called a haul. A haul represents a small area of the bay where physical conditions are appropriate for the seine net and which is within the effective reach of the net when one end is attached to the shore. Usually, there is only one haul per bay, but there may be more. The distribution of the 97 seine hauls in Grenada is shown in Figure 5.4. They have been grouped into nine net clusters based on the range of hauls within which individual nets tend to operate. There is the tendency for nets to be largely confined to the hauls within a net cluster. Seine fishing on the east coast in the St. Andrew's and St. David's areas is not carried out according to the traditional rules, partly because there is a greater variety of seine types in these areas, several of which are small and mobile.

## 5.4 Seine fishery around Gouyave

### 5.4.1 Fishing area

In 1994 there were 11 seines based in Gouyave, about 25% of all seines in Grenada. Of these, 9 were reported as operating entirely within the Gouyave net cluster of hauls (Figures 5.5 and 5.6). Two nets operated 1-2 hauls to the north, and to nets from the Grand Roy net cluster south of Gouyave operated in the southernmost two hauls of the Gouyave net cluster. Therefore, the seine fishery of the Gouyave area is a relatively discrete entity with minor overlap into adjacent areas.

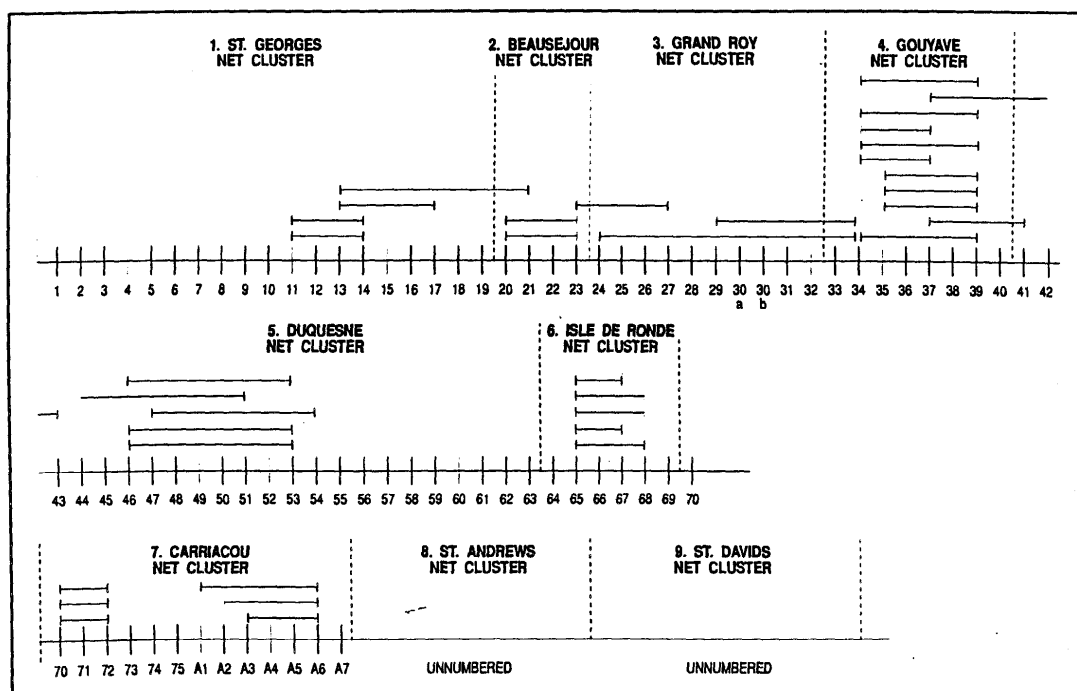


Figure 5.5 The range of hauls fished by individual seine nets (Finlay 1995)

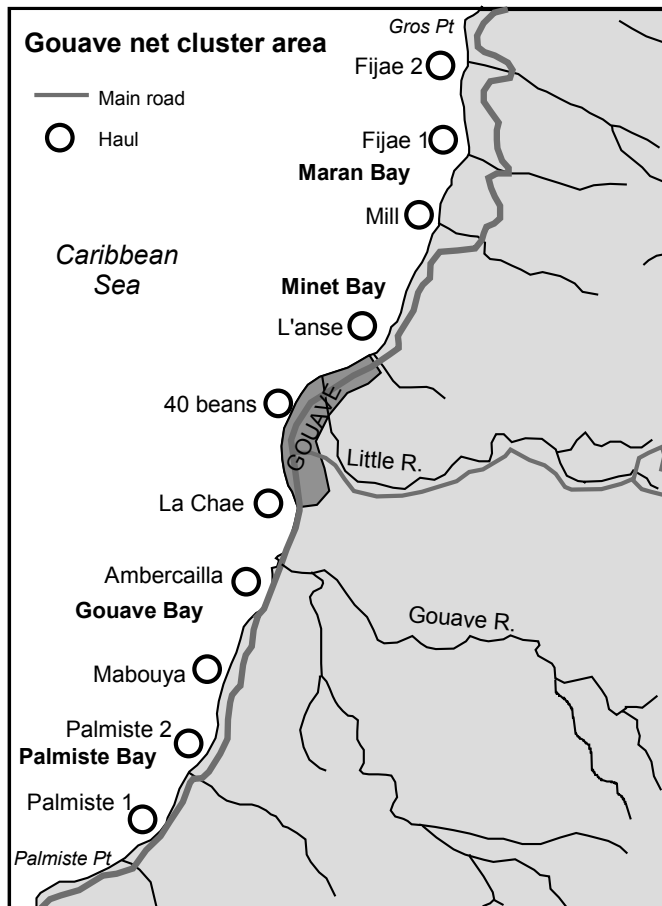


Figure 5.6 The Gouyave net cluster area showing location of hauls

The cluster zone to the south of Gouyave is fished by only three nets, whereas that to the north is fished by five nets.

#### 5.4.2 Fishing methods and boats

The standard large seine net is rectangular comprising four section types each having a different mesh size: fondcier, central piece, 1" mesh; quatrieme on either side of the fondcier 1-2" mesh; bois on either side of the quatrieme, 2-3" mesh; and grand maille, the outer ends, 4" mesh. There is a weighted foot line along the bottom and a float line along the top.

Seine fishing is conducted from open wooden, double-ended vessels that are rowed. On any fishing day, the boat rows between bays to select a suitable haul, then anchors in the haul with a stern line to the beach. The captain then waits for a suitable school of fish to enter the haul. A boat may stay in position for several days waiting for a school. Typically, one end of the net is tied or anchored on shore and the net is paid out from the boat as it is rowed in a semicircle to enclose a school of fish (Figure 5.7). The net is then hauled slowly ashore. Divers within the enclosure may beat the water to herd fish into the net and may also help the footrope over any obstacles. Further details of net setting practices are provided by Finlay (1995). These may vary among locations depending on distance to market, currents and other factors.

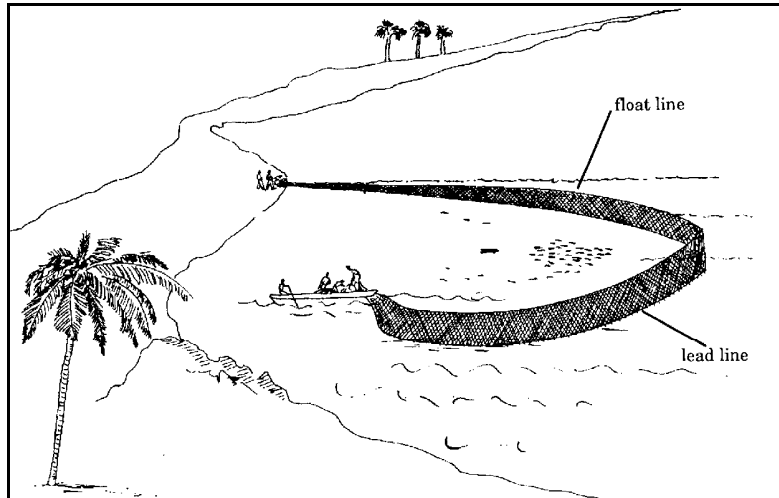


Figure 5.7 Setting a seine net

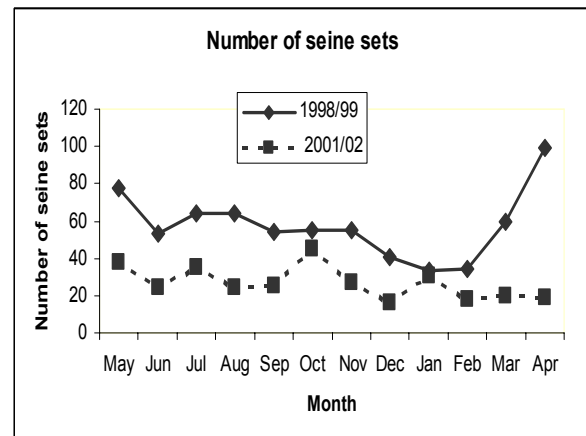
The catch is shared among the boat crew as per rule # 11 (Box 5.1). Onlookers may assist the boat crew in hauling the net. If they are asked to help by the captain, they are entitled to a share that is 50-75% that of a crew member. If they assist voluntarily and the captain does not stop them from doing so, they get a small share.

### 5.4.3 Catch

The Fisheries Division has detailed records of fishing activity and catches by seines operating in the Gouyave area. These have been analysed for two twelve-month periods (May 1998 – April 1999, May 2001 – April 2002) to provide insight into seine activities around Gouyave. There was a considerable difference in seine activity between the two periods with a total of 690 seine sets recorded in the first and 320 in the second. In the first period 12 seines were active, though activity varied widely among them (Table 5.1). In the second period only six seines were active; those that were most active in the first period.

Table 5.1 Number of seine sets in the Gouyave area in the two time periods

Captain	No of seine sets	
	1998-1999	2001-2002
Gomez	136	82
Lasha	126	92
Booge	82	58
Pee tee cock	74	17
Kebbo	68	60
Shark	53	
Lannie	46	12
Zee pee wa	29	
Peter	28	
Holder	19	
Brego	16	
Shilling	12	
Total	690	322



(a)

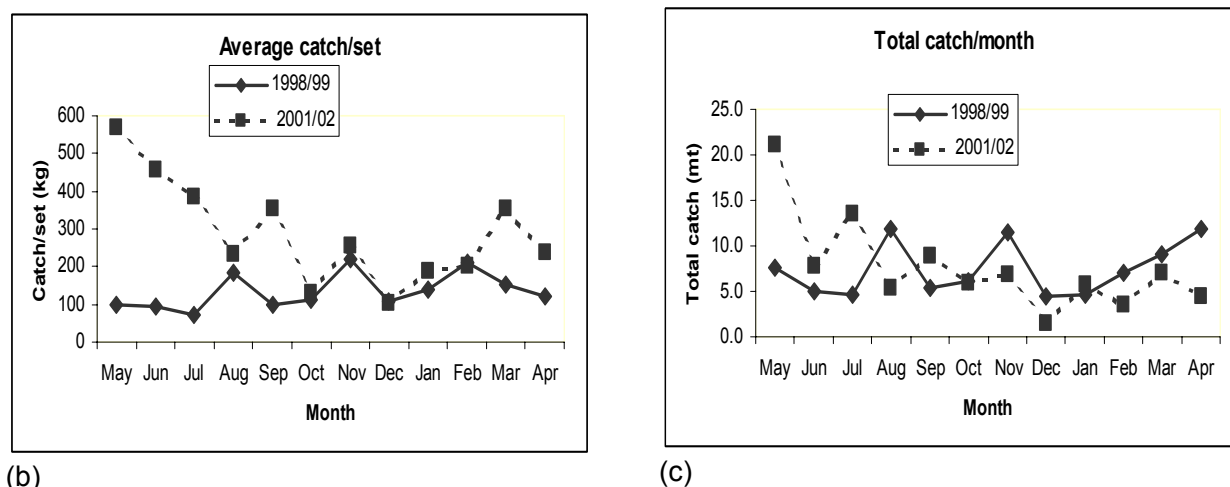


Figure 5.8 Seasonal patterns of number of (a) sets, (b) catch per set and (c) total catch in the two time periods – 1998-1999, and 2001-2002.

Figure 5.8 shows that fishing continues year round. There is no strong seasonal signal although in both periods the number of sets tended to trend downward from May through February. In the first annual period, there was a slightly increasing trend in average catch/set over the May to February period, while the opposite was true for the second period. The interaction between number of sets per month and catch/set was such that total monthly landings tend to vary little over the years examined, and indeed are very similar between years. This suggests that the seines fish to meet a limited market demand, rather than to catch all that is available.

Fishing activity varied considerably among the hauls in the Gouyave net cluster (Table 5.2). The pattern of use was similar in both periods examined, but does not appear to be related to the size of catches. Other factors must be determining the use patterns.

Table 5.2 The number of sets and average catch/set (kg) in the hauls of the Gouyave net cluster

Haul	No of seine sets		Average catch/set	
	1998/99	2001/02	1998/100	2001/03
L'anse (Minot Bay)	329	200	162	242
La Chae	151	58	112	366
Palmiste I & II	77	21	86	428
Mill	52	6	115	153
Ambercailla	44	14	109	478
Mabouya	34	19	55	466
Fijae	2	1	36	109
40 beans	1	3	0	73

#### 5.4.4 By-catch and discards

There is no official information on by-catch and discards, but observation suggests that the amounts are small. Due to the closed season, sea urchins are sometimes discarded, but this is not a major feature of the fishery in Gouyave. Beach seines have also been known to harvest

an occasional large tuna or snapper as a very valuable by-catch. Gouyave is known for its “tuna hole”, an area about 500m offshore where up to 15 live bait boats may gather around in a circle to fish. There is no known reason for the consistently high tuna abundance at this spot.

#### **5.4.5 Local ecological knowledge**

There has not been a structured approach to determining the extent and nature of seine fishers’ local ecological knowledge. In the process of elucidating the traditional rules for access to seine hauls, a variety of local ecological knowledge was shared with James Finlay, but this was not recorded systematically (J. Finlay pers. comm.). In this study, fishers had various perceptions about why fish had become scarce in certain areas, and some observed areas in which seines had operated over many years were less productive due to frequent disturbance of the seabed.

#### **5.4.6 Longline fishery**

Fisheries officers report that fishers own only about 10% of the longline boats. Owners tend not to be conspicuous as many are public officers, some in high-ranking positions. Longline fishers may wait for up to 2 weeks for seiners to catch the jacks for them to use as bait. No one fishes regularly for flyingfish to satisfy the demand for bait. During the fieldwork in late 2002 bait had been scarce for the past 2-3 months. Small catches were mostly of robins and “cha cha” in recent months, but few jacks. Seine sets had been infrequent, since fish was not seen. Sometimes the smaller longline fishers got together to make up the crew for hauling seines if they were desperate for bait. There is often a shortage of net helpers (mostly young men) since returns for labour are not great. Fellows who are satisfied with their earnings from a previous haul do not come out to work for a few days, usually not until they have run out of money.

Small longliners buy bait by dollar value (between EC\$40 and \$200 is common). The net captain determines how much fish is given for that value. This includes bargaining and a host of factors such the nature and outcomes of previous transactions, friendship or conflict, etc. Conflicts exist over the equitability of returns from the seine fishery versus longlining. Net men are said to become upset if longliners do not give them “something” after a good catch that was due to “their” bait. If upset, the net captain may not sell them bait next time, or put them last in line to get the fish. Unlike credit to the vendors, longline bait purchases are cash transactions unless the purchaser and seine net captain are close friends.

#### **5.4.7 Hurricane Lenny**

Seine boats and nets were lost during Hurricane Lenny. Before Hurricane Lenny in November 1999 there were a dozen active nets. Now there are about half dozen. There has been no re-building of nets since this is considered too costly. Some owners had loans that were not paid off. Owners who had more than one net abandoned the one that was damaged, so no new nets are now in use. This natural disaster has reduced fishing effort.

## **6 Socio-economic attributes**

Local to national level social and economic attributes are examined in this section.

### **6.1 Agriculture in the economy**

The agricultural sector, of which fishing is a part, plays important social and economic roles despite its declining contribution to income, employment and output. According to government’s medium term economic and social review for the year 2000, and its economic strategy for 2003-2005, the economy of Grenada recorded negative growth of 3.4% in 2001 following positive growth of 6.6 % in 2000 (Ministry of Finance, Planning and Development 2001 and 2002). Poor



performance in 2001 reflected reduced economic activities in agriculture, manufacturing, tourism and construction. The agricultural sector recorded negative growth of 3.3%. Output was down by 23.1% relative to 2000 due to the reduction in production of agricultural crops, but fish production grew by 32.1%. Agriculture's share of Gross Domestic Product (GDP) in 2001 remained virtually unchanged at 8.2 % relative to the previous year, thanks to fishing.

## **6.2 Contribution of fishing**

On average, fishing constitutes 15% of agriculture and about 1.5% of total GDP (Rennie 2002). Production of fish in 2000 was estimated to have grown by 3.4% following a decline of 4.7% in 1999 due to fish kills. Export of fish, that has averaged about 200 metric tons valued at around EC\$9 million (US\$1 = EC\$2.67), rose by 12.0% in 2000. Importation of fish and fish products is around 300 metric tons valued at EC\$5 million (Rennie 2002). Fishing has recently been one of the few positive performers in the agriculture sector, and makes an important contribution to nutrition and food security. Studies on income and employment generation in fisheries identify constraints as shown in Box 6.1. The causes are said to be mainly due to fishers' attitudes, but solutions are said to lie in infrastructure development (Kairi Consultants 1999).

### *Box 6.1 Limited income and employment generation in fisheries*

*Causal Factor:*

Ability of some fishermen to do well from selling on external markets, but there are limited arrangements for mobilising resources for sustained upgrading of industry.

*Maintaining Factor:*

Short-term outlook of fishermen prevents development of their communities

*Reducing Factor:*

Marketing and port facilities for fishing have been improved

Source: Kairi Consultants 1999

## **6.3 Fisher profile**

Over 95% of Grenada's population of around 100,000 people are African or mixed (mainly African-European) race. About 60% of the people are Roman Catholic, but other denominations are locally significant. Rennie (2002) notes that most fishers come from lower socio-economic classes and throughout the island close to 90% have only primary school formal education. He raises the latter as a major problem resulting in inability to properly manage fishing enterprises as businesses and an obstacle to owning their own boat, especially as the size and capital investment increases. Although nearly 90% of fishers own their small (5m) open boats this decreases to about 30% for the offshore (>12m) vessels. In his sample from three parishes, over 50% of fishers surveyed were single or lived in common-law relationships, and about 25% if cases a member of the household assisted in fishing or fish marketing activities.

Owners buy seine nets for investment. They look after repairs, get a share of the revenue, but have no say in seining operations or fish price. Most seine fishers work their way up to net captain from sailorman through vacancies arising in the crew. The net captain chooses sailormen who are usually friends and main helpers who get promoted. Some helpers are also friends of sailormen, so a network develops to maintain the labour pool. In sharing revenue the owner gets half and the fishers get the other half out of which they pay good helpers. Typically, the net captain gets same share as the sailors but he has more power. Captains sell some fish

to consumers at vendors' price, but not much is sold this way. They sell strictly to the highest bidder when several vendors come to buy and no favours are owed to a particular vendor.

Seine fishing used to be subsistence hand-to-mouth living for sailormen. Now a captain or sailorman can make EC\$200-\$1,000 per day if catches are good and regular. Often seiners do not make much money because of the large numbers of people involved in the operation, some of them uninvited, who demand a part of the catch or payment in cash depending on the work performed. If fish is seined nearshore, instead of on the beach, the profits for fisheries are greater due to the reduced numbers of helpers.

Captains give fish to non-fishing friends in good times and may ask for money from them in hard times. There is little borrowing of money from vendors but, when this occurs, the vendors are sure to demand fish from the next haul for the privilege in addition to actual repayment. There are interpersonal problems of net captains not selling bait to longline fishers due to personal dislikes and jealousy. The main issue is said to be the longliners' lack of respect for seiners. This lack of respect is manifested in several ways and extends to social relations among men and women outside of fishing. Seiners claim to be simply sanctioning longliners by not selling them fish when needed. Fisheries officers observe that this persistent conflict causes problems with fishing operations on occasion, but is mainly no more than a source of annoyance in the process of conducting business.

### **6.3.1 Marketing seine fish**

Traditionally, fish caught by seine have been an inexpensive source of local protein. They are sold directly to consumers on the beaches or to vendors who would transport them into rural areas or St. George's for sale (Finlay et al. 1988). At times when there is a glut of seine fish, they may be held live in the net tucked-up to form a pen, or in bamboo pens for sale over time. The development of the small-scale longline fleet, based mainly in Gouyave, has created an additional and growing market for seine fish as bait. This now rivals demand for food fish.

Seine fishers report that good catches yield disappointing returns due to poor marketing. They claim that consumers and the government are paying more attention to ocean fish (large pelagics). Over 90% of seined fish goes now to use as bait because of fewer nets. There was general agreement that, when fish is available, the 6 nets supply enough bait. Before Lenny, with more nets there was usually a 50:50 split between bait and food fish for consumers. Thus seining is turning from a food fishery into a bait fishery, with several consequences.

The increase in small longliners has absorbed some of the former net fishers underemployed as a result of there being the fewer nets. Fishers switching from net to longline are making more money, but they are dependent on their former occupation to maintain their new calling. Before there were on average 10 regular sailormen to a net, now about 6-7 men is normal.

Bait that used to sell at EC\$5 for 20-30 pounds is now EC\$20 for same amount due to the demand from longliners. The price increase in bait has not resulted in more nets being made. Bait is stored in sacks by longline fishers for up to one month. The bait fish feed on the algae growing on the sack. Sacks for holding fish developed with the longline live bait fishery since 1999. Mostly the light, or small, longliners have sacks, the design of which is still undergoing development. The sacks reportedly have had no impact on the demand for bait which continues to exceed supply. Longline fishers try to top-up the sacks rather than exhaust them completely.

The fish trading firms of Grenada Commercial Fisheries Limited, Nordom Seafood and Caribbean Seafoods are the major buyers from longliners, but local vendors sell seine catches. The vendors have no organised group for collective action. Entry into, and exit from, vending is quite open and fluid. Most seine fishery vendors ply other trades. Some women sell fish to offset housekeeping costs.

*Box 6.2 Profile of a jacks vendor*

Gillian, in her mid-30s, comes from a fishing family. Her mother is also fish vendor and male relatives are fishers. On most days she bargains with the seine net captains for jacks and buys 1 or 2 tubs to sell at the Melville Street fish market in St. George's. She will pay \$120-140 for a large tub (52-55 lbs) of large jacks. A small tub is 38 lbs. The fish is taken on credit and paid for at the end of the day, usually. She transports the fish to town by bus in the tub (plastic pail) and typically arrives at Melville Street around 8a.m. She may finish selling the tubs by 10-11a.m. and is home again by 1 p.m. If sales are brisk she may return to Gouyave for more fish and go back to town, returning home about 7 p.m. that night. The fish retail at \$3.00, \$2.50 or \$1.50 per lb depending on size. She has no other regular job and sells year round. Usually two older vendors and three younger ones also sell mostly jacks at Melville Street.

Gouyave has about 3 or 4 regular female fishers who occasionally do longlining, and one of whom has been a successful, record-breaking harvester. The division of labour by sex is clear in the seine fishery. Although some women may lend a hand to haul the net, this is usually men's work. As James Finlay puts it, "women work behind the net" in marketing. Equitability of sharing fish among vendors is important to fishers. Net captains are said to be more even-handed with vendors for food fish than with the longline fishers for bait. Women also gather around big catches of seine fish simply to ask for fish to cook for their families, and quantities for immediate household consumption are usually given freely. In the early days of longlining, flyingfish was the bait caught by the longliners on each trip, and some often remained at the end of the trip. Women used to come to the beach to collect flyingfish that were given away by longline fishers to everyone for personal consumption as there was no commercial market for them. This was of particular assistance to poorer people. Women also helped to haul in boats during the Hurricane Lenny storm surge emergency.

The largest vendors distribute fish by pick-up van. It was reported that in the past the vendors were mostly men using their own vehicles to distribute the fish. Vendors are mostly women now, some of whom have their own transportation. "Pick-pick vendors" are women who get half tubs from various nets to sell as an income supplement, but are not truly commercial vendors. The leading fish vendor in Gouyave maintains supermarket and hotel contracts for marketing her fish. Two female vendors work in the Gouyave market where sales are slower than in the capital. There are many small occasional or opportunistic jacks vendors who appear when catches are particularly good. For most of these women selling fish is only one among several household tasks that arise when market conditions for various items are good. Infrequently vendors return their fish unsold, and this strains the credit arrangements with the fishers.

Tubs of jacks are typically 50-55 lbs in weight. Typical ex-net prices are EC\$45 for small fish; \$90 for medium-sized; and \$140 for large fish. Retail prices to consumers are most commonly \$1.50-\$2.00 per pound. Commercial vendors cannot make enough sales in Gouyave, so they have to sell in St. George's. The women sell 2-5 tubs per day in town. They get the fish on credit from the net captain and pay on return in the evening to Gouyave. Compared to when Finlay did most of his research in the late 1980s and early 1990s, jacks are not as frequently tied off

overnight since demand for bait by longliners is always high now. Also, more often than before, fish are stolen when tied off.

### **6.3.2 Costs and earnings in the seine fishery**

Finlay (1995) provides an analysis of the costs of and revenues from operating a typical large beach seine in Grenada in 1994. The average initial cost of a fishing unit (net, accessories, seine boat and small boat) was about US\$8,300. The annual cost of maintenance and depreciation was estimated to be about US\$1,675. The average annual gross revenue from a seine fishing unit was about US\$10,950. Of this 50% goes to the owner who bears the cost of maintenance and depreciation leaving them with an annual earning of US\$3,800. The remaining 50% is shared between the captain (1.5 shares) and five crew (1 share each), giving them annual incomes from seine fishing of about US\$1,265 and US\$840 each.

The above analysis is based on a straightforward share system among owner, captain and main crew. In reality the system is more complex and variable, with the relative shares varying according to the size of the catch. Very small catches are shared equally among the captain and crew and the owner may not receive a share. Finlay describes other informal costs and benefits such as a small share of fish to the owner when the catch is good, shares for helpers, gifts from owner to crew and so forth that shift the balance of costs and revenues among partners in the process.

All of the seine net owners in Gouyave are men. One middle-aged large seine net and boat owner, who has a professional career and tertiary education, has been in the fishery for 8-10 years. Seine fishing provides about 10% of his annual total income. He invested in the seine through agreeing to join someone in fishing as a means of support (not a joint investment). Old net helpers say that they made their entire livelihood from net helping. They used to get more fish from helping before. A wide cross-section of respondents reported that most fishers do not save or re-invest their earnings. Fishers who borrow money from vendors and processors allegedly often do not repay or provide fish in return. The credit ties between buyers and fishers, common in other countries, are not prominent in Gouyave. Rotating credit associations, or "susus" are run in the area, mainly by women, but apparently are not closely linked to fishing occupations.

## **6.4 Poverty**

Poverty is the inability to maintain a minimal standard of living. The Statistical Office in conjunction with the Ministry of Finance and Planning, the Caribbean Development Bank and Kairi Consultants of Trinidad conducted a Survey of Living Conditions (Household Poverty Survey) and a Community Based Poverty Assessment Survey during the first half of 1998. The Poverty Assessment Report on Grenada (Kairi Consultants 1999) provides an examination of the economic and social conditions of the population of the country. This is the most recent comprehensive assessment. Extracts from the report are summarized in this chapter.

Kairi Consultants' analysis of the national survey data revealed that 32.1% of all individuals in Grenada were poor in that their annual expenditure was less than EC\$3,262. This is the cost of meeting their minimal food and other basic requirements. About 12.9% of all individuals in the country were found to be extremely poor or indigent. Poverty was found to affect particularly, the youth, with over 56% of the poor being less than 25 years old. Limited education, high unemployment, and poor social amenities (garbage disposal and safe sources of potable water) in some areas, were acute problems. Poverty has been exacerbated by the decline in the agricultural sector and remittances. During the 1960s to 1990s, family remittances from North

America and United Kingdom provided significant support for the rural poor. As strong bonds between families and extended families disappear, reduced remittances lead to increased poverty (Peters 2000).

#### 6.4.1 Geography, gender and education

Poverty has generally been assessed at the parish level (Kairi Consultants 1999). The poor are fairly evenly spread throughout the country. St. John's, however, had a much lower percentage of poor (23.9%) compared to a national average of 32.1% (Table 6.1). The poverty gap, resources needed to bring the poor up to the poverty line was also lowest for St. John's, which contains about 9% of the island's population.

Table 6.1 Socio-economic distribution of poverty by parish

Parish	As a % of non-poor population	As a % of poor population	% of parish population poor	Total parish population (no.)	Parish and percent of sample
St. George's	28.6	31.7	34.4	1202	29.6
St. John's	15.0	10.0	23.9	543	13.4
St. Mark's	4.5	4.8	33.5	188	4.6
St. Patrick's	12.0	14.0	35.4	514	12.6
St. Andrew's	25.6	26.6	32.9	1052	25.9
St. David's	10.2	9.8	31.3	409	10.1
Carriacou	4.1	3.1	26.8	153	3.8
Total	%	100	100	4061	100.0
	No.	2758	1303		

(Source: Kairi Consultants 1999)

St. John's has a moderate proportion of female-headed poor households (Table 6.2). There was no evidence of gender differences. The poor are evenly divided between males and females. Among the poor, stated female headship was greater than stated male headship, but not significantly so. It was 52% as against 48% for men.

Table 6.2 Distribution of poor female-headed households by parish

Parish	% poor female-headed households	
St. George's	33.3	
St. John's	9.4	
St. Mark's	3.6	
St. Patrick's	13.8	
St. Andrew's	28.3	
St. David's	8.0	
Carriacou	3.6	
Total	%	100.0
	No.	138

(Source: Kairi Consultants 1999)

As much as 64% of the population had no form of educational certification. The country as a whole was assessed as having a limited human capital stock as represented by the level of education attained by the mass of the population. The 1998 labour force survey measures male

unemployment in St. Patrick's as 18.7%, well above the national average of 10.5% for males (Hunte 2000).

#### **6.4.2 Factors contributing to poverty**

There are many factors responsible for poverty in Grenada. The most important is the untransformed nature of the Grenadian economy since Grenada's industry has not fully exploited opportunities for internal linkages: e.g. tourism is not well linked to agriculture (Kairi Consultants 1999). The informal sector and small and medium sized enterprises are incapable of providing protective employment for the population and lack the capacity to transform the economy. This fundamental weakness is exacerbated by a host of other factors:

- Difficulties in the macro policy framework and in the incapacity of key agencies of state to create and support dynamic transformation;
- Limited safety net to protect the poor and those at risk;
- Limitations in the physical infrastructure;
- Poor community organisation and the inability of the people in their communities to exploit their internal resources for transformation; and
- Limited coordination and cooperation among Government agencies, NGOs, and CBOs.
- Gaps in the institutional infrastructure.

#### **6.4.3 Gaps in the institutional infrastructure**

Institutional gaps are of particular interest to this study. Kairi Consultants (1999) note that institutional underdevelopment results in absence or delay in addressing social and economic problems. They identify several maintaining factors:

- Problems of coordination among state agencies reduce the effectiveness of government and contribute to inefficiencies in the use of human and financial resources;
- Failure at the local level to generate organisational structures results in poor mobilization of local effort;
- Poor coordination between NGOs and government agencies result in duplication of effort in some areas and absence of initiatives in others, to the detriment of the society;
- Some communities are over-researched and are now the "popular poor";
- Absence of Local Government structures reduces the probability of local initiative to address collective issues.

Kairi Consultants (1999) also conducted detailed community assessments. In communities assessed in detail, informants identified several key factors that, in their view, contributed to, perpetuated and kept them in a state of poverty. Chief among these were unemployment, lack of job opportunities, unavailability of regular work, and unemployability of the majority of community members, especially in communities where the majority of people depended on agriculture and in which agriculture has declined. Other related factors include poor attitudes, identified by several people as being manifested in indifference, laziness and unwillingness to do whatever work is available. Political negligence was seen as an important contributor to poverty, as is the very low level of education of large numbers of people in these communities. This includes deficient literacy and technical skills. Linked to this and mentioned by several is low self-esteem, lack of self confidence, little motivation and high levels of dependency displayed by many. Lack of resources including the loss of valuable human resources that has resulted from internal and overseas migration, lack of access and/or limited access to land, and limited credit facilities, as well as abuse and underutilisation of natural resources were also cited as contributing factors. Other factors identified were crime and drugs and absence of organised

community groups. Many people in all of the communities also saw drugs and crime as forms of employment, as income sources and as alternatives to living in poverty.

#### 6.4.4 Economic diversification

Programmes of economic diversification have led to a change in the economic structure of the country with new areas of production such as manufacturing and services beginning to play a more prominent role in employment and output. Concern has been raised about the distribution of the GDP among the population (Ministry of Finance, Planning and Development 2001). Poverty levels still remain high as described later. Measures are to be put in place to improve living conditions of the poor. In its medium term strategy the government recognises that investment in human and social capital can contribute significantly to raising living standards (Ministry of Finance, Planning and Development 2002). More emphasis is to be placed on the social sectors, in particular education and health, not only in an attempt to arrest and eradicate poverty, but also to create a foundation for sustainable growth and development.

### 7 Community-level institutional and organisational arrangements

We now focus on the human system. The sections below examine institutional arrangements at different scales of analysis (Figure 7.1). Scales beyond the community level are considered to be external.

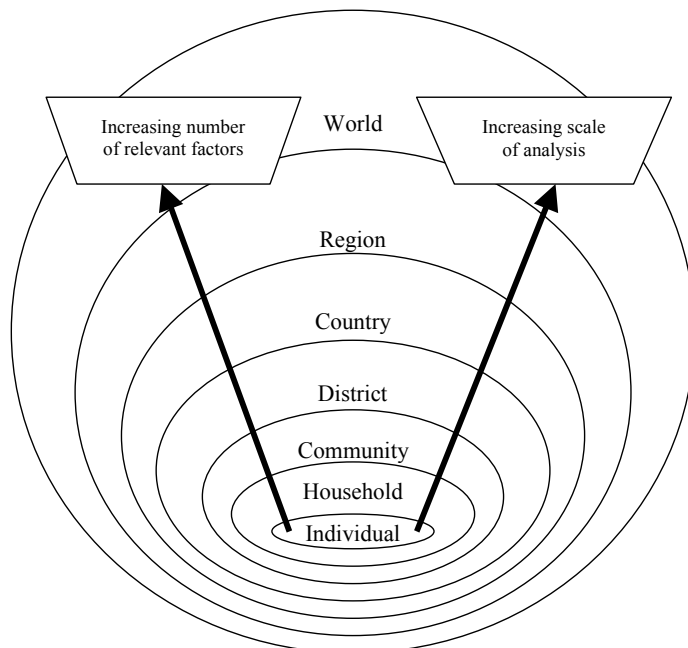


Figure 7.1 Number of factors to be addressed increases with scale of institutional analysis

Institutions are the customary rules and modes of interactions that people develop in order to effectively carry out their functions. Factors of interest to assessment include those in Figure 7.2. They are relevant to how co-management may function, and be sustained, or fail.

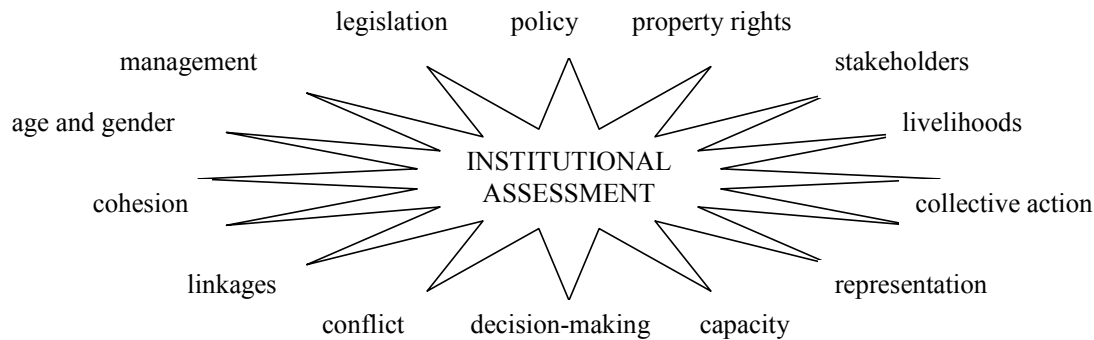


Figure 7.2 Some of the factors to be considered in institutional assessment

### 7.1 Gouyave

The town of Gouyave on the west coast is the second largest in Grenada. Its estimated 2002 population was 3,200 people compared to 4,400 in the capital, St. George’s. Much of Grenada, outside of St. George’s Parish, is rural according to the Department of Statistics. However, the town of Gouyave has many urban characteristics. The town is home to a commercial fishing industry with many of its inhabitants engaged in fishing and the export of their catch to external markets.

In the early days of longlining (1980s) the L’Anse was party-like on most nights while waiting for boats to come in. Women came to get free flyingfish for home consumption, vendors of fruits and refreshments set up shop on the beach, people from all walks of life and parts of the country gathered and mingled socially. This continued into the night as most boats landed after dusk. Gouyave got its reputation as a town that never sleeps. This is in distinct contrast to the capital, and many towns in Grenada or other parts of the Caribbean, where activity is mostly linked to daytime commerce. During the research period it was observed that after a good catch of jacks the whole town came alive, even into the night.

The researcher also observed a party-like atmosphere on the L’Anse at Sunday sailing races between Gouyave and Sauteurs fishers. The area around the fish market where boats are hauled out is still a popular social gathering place on most evenings. Older residents note that the L’Anse was always the poorer end of town within local hierarchy and that it had a stigma of notoriety attached to it. Today the southern end of the L’Anse that is popular with fishers and known as Gun Battle (previously Coconut Row), is notorious for drugs, gambling and occasional violence. On the other hand, accumulation from fishing has helped to improve the socio-economic status of fishing. Fisher people are well integrated into the ordinary fabric of the community such as sitting on Parent Teachers Associations and belonging to other groups. The fact that professionals (senior civil servants, engineers, accountants) and important people (e.g. Commissioner of Police) are interested, and have invested, in fishing has elevated the socio-economic status and respectability of the industry generally. Fisherfolk occupy a continuum of positions in the community structure.

Outsiders operate few businesses in Gouyave; most are family-owned by residents. Regarding commerce, businesspeople remarked on the very rapid circulation of cash fuelled mainly by the spending of fishers after good catches. One businessman reported that attempts to form a town business organisation failed because most of the enterprises are family businesses satisfied with how they are, rather than trying to grow. He felt that the “community does not challenge itself” socially or economically, but waits to be assisted. No town meetings are held on a regular



basis and many community groups are said to have formed and failed due to limited capacity and willingness to do community work. However, there are some very successful organisations. These tend to have the same people, mainly professionals and businessmen, involved as core members.

Finlay (1995) reports 13 nets (86 regular fishers) in the Gouyave beach seine fishery in 1994. Then, 70% of fishers were less than 50 years old, with 30-40 years as the modal age. Today, the numbers of nets and regular seine fishers are about half of this. About half of all types of fishing is said to be family work, but many young fishers are said to be from outside of Gouyave and less connected to fishing through kinship, particularly in the small longline fishery that is expanding. Alternative livelihoods are reportedly scarce amongst fishers, few are said to have skilled trades. Fishers primarily switch between fisheries. Many young men are said not to be true full-time fishers in terms of a career, but just after the quick money available from good catches, particularly in the longline fishery.

## **7.2 Gouyave fishing cooperative**

Although the Cooperative Department seems to no longer have records of it, and it is beyond their institutional memory, older Gouyave residents recall a fishing cooperative operating there in the early 1960s. The original Gouyave cooperative leader apparently went overseas and a female fish vendor took over as president. She used to procure gear for sale in the cooperative store. The cooperative credited too much and went bankrupt. Before its demise it reportedly took members to court for bad debts, but this was unpopular since the members and executive were all colleagues and there was reluctance to prosecute people you had to live and work with on a daily basis. Founding members also blame the demise on interference by US Peace Corps Volunteers, presumably requested to assist the fishing cooperative as was common in many parts of the eastern Caribbean in the early 1970s. The specifics are unclear.

Older respondents say that young men are not interested in associations or collective action as they are very individualistic. They do not attend meetings or talk much inside meeting rooms, but prefer mainly to talk on the beach without taking action. These perspectives are being challenged by the formation of a new cooperative led by a small group of young and articulate longliners. This cooperative is being formed as a rival body to the Saint John's Fishermen Association, hoping that it may eventually be able to take over some of the assets of the latter.

## **7.3 St. John's Fishermen Association**

The Saint John's Fishermen Association (SJFA) was registered on 19 June 1986 as a business name, but the association existed informally before this on the initiative of a member of the failed fishing cooperative who still remained enthusiastic. Its constitution states that ...

*"The objectives of the Association shall be to promote the social, cultural and economic interests of members and more especially:*

- a) To arrange for the sale to members of their requirements of fishing tacklings and any such other requirements as may be necessary for fishing.*
- b) To provide such services as may be necessary to improve the quality and out-put of fish production.*
- c) To arrange for the processing and marketing of members fishing produce.*
- d) To encourage among members the spirit and practice of thrift, self-help and mutual help.*
- e) To assist members in seeking financial assistance.*
- f) To formulate and articulate recommendations to Government on matters relative to the fishing industry."*

Membership is open to persons engaged full or part-time in the fishing industry who ordinarily reside in the parish of St. John's and are 18 years or older. General meetings are constitutionally due every month so that "members will be informed of the progress of the Association". The constitution also covers marketing practices and medical benefits, provides for a manager and is generally a progressive document with several powers delegated to a Management Committee. Although not a cooperative, it is as democratic on paper.

The Association has been dormant as a body for collective action for several years, with no active membership and no meetings. Yet some Committee members still proclaim their titles. The president appears to be the only active officer, running the commercial operations of the SJFA single-handedly. These operations are primarily a store and fuel supply. The store includes a small meeting room used by the Gouyave Improvement Committee (see later) and projects such as this. Persons who identify themselves as ordinary or committee members say that they are unhappy with this situation but have done nothing about it as provided for under the constitution in terms of calling meetings or changing the executive. All appear reluctant to challenge the authority of the president who is a university-trained businessman.

The president is very aware of the situation and argues that because of benefits for fishing being available directly from government (e.g. duty concessions), and the SJFA being excluded from government decision-making, fishers do not join the SJFA as they see no benefits. Existing members do not wish to pay their subscriptions or to actively participate and manage the body. Although the SJFA president is a seine net owner he is clear that the SJFA could not represent all fishers in Gouyave, and particularly not the seiners. The SJFA is mainly concerned with longliners as reflected in its fishing store inventory. He notes that, unlike the longliners, seiners do not have considerable boat-related operating expenses and the individual economic incentives available through the SJFA would not apply to them. However, seiners have benefited in crises such as after the Hurricane Lenny storm surge when the SJFA worked closely with GRENCODA to provide relief (described later). Membership statistics were not available, but it was reported that the seine fishery membership in the SJFA declined as longlining became more popular amongst fishers.

Older fishers recognised the need for outside (non-fishing) knowledge and experience to manage the Association. Fishers are too busy to run the Association on a daily basis. They claim that young fishers are now more crisis oriented and want instant results without investing in long term management. Assertions such as that of young people not being interested in the SJFA may be contradicted by the recent cooperative initiative described above where at least the assets and operations of the SJFA are of interest to youth. Young men from outside the immediate town area have reportedly been entering fishing in greater numbers recently. Most are said by fishing industry respondents to be high-school drop outs with limited opportunity. They remain in fishing for short-term cash gains before trying to emigrate. A few are said to be involved in transporting drugs, with fishing as camouflage.

In its early days the SJFA received assistance from the Agency for Rural Transformation (ART) through external donor funds (e.g. Dutch HIVOS) such as to construct the SJFA headquarters. External funding also allowed the Association to provide loans to fisherfolk for houses, vehicles, boats, emergencies etc. via a revolving fund. Respondents reported that there was not much defaulting on loans but these programs ceased due to other financial issues. Some linked these unspecified issues to party politics and mis-management of funds, but even members of the SJFA management committee appeared unsure of the reason for the present state of affairs.

The SJFA maintains some relations with the Gouyave Improvement Committee (GIC) (see later) through joint organisation of the Fisherman's Birthday (29 June) celebrations in Gouyave that have grown to be the largest in Grenada, or perhaps anywhere in the eastern Caribbean. Several fishers, including management committee members, mentioned that they hoped that the GIC could assist in reviving the SJFA, but were uncertain as to how this could be accomplished. Several agreed that concern about reviving the SJFA increases with downturns in fishing since it is deriving income from the assets of the Association that is of most interest to the fishers, not matters related to collective action or fisheries management. Many interviewees were hard-pressed to describe what a fisher organisation would independently do in Gouyave, except improve on welfare work (e.g. school scholarships), since most benefits are tied to or provided by the government.

The president of the SJFA said that he cannot speak for seiners since he does not see himself as their representative, but the SJFA would have an interest in the process of rule legalisation. The merits of the process and outcomes of previous consultations, and what rule legalisation actually entails, were not discussed with him and he was reluctant to speculate about them. He agrees in principle to need to formalise the rules in a co-management arrangement, but is concerned about the lack of enforcement of fisheries regulations in general and the tardiness of the court process both undermining potential improvements. Swifter action should result if local councils are formed that have authority to make rulings, but this power-sharing arrangement could become too political. He is not convinced that the fisheries authority or the majority of fishers understand the objectives, advantages or disadvantages of seine rule legalisation.

#### **7.4 Fisheries Division of the Ministry of Agriculture**

The Fisheries Division is governed by the Grenada Fisheries Act and Regulations (Cap. 108). Finlay and Franklin (2002) note that its roles and functions include:

- Monitoring, control and surveillance (MCS) of fishing activities in order to sustain fish stocks and habitat, collaborating with States sharing fisheries resources.
- Establishing and maintaining infrastructure in support of fishing activities.
- Maintaining a fisheries management programme in collaboration with local fishing communities.

Delivery systems include coordination and management, extension service, fisheries biology, fishing technology, aquaculture, marine protected areas, socio-economic monitoring, fisheries project planning and implementation. Functional links are maintained with the Coast Guard for fleet safety, search and rescue, and enforcement of fisheries regulations. Other allied external agencies include the Port Authority, Board of Tourism. Internally, the Forestry Division and Planning Unit of the ministry are very relevant. The staff of the Division is small (Figure 7.3).

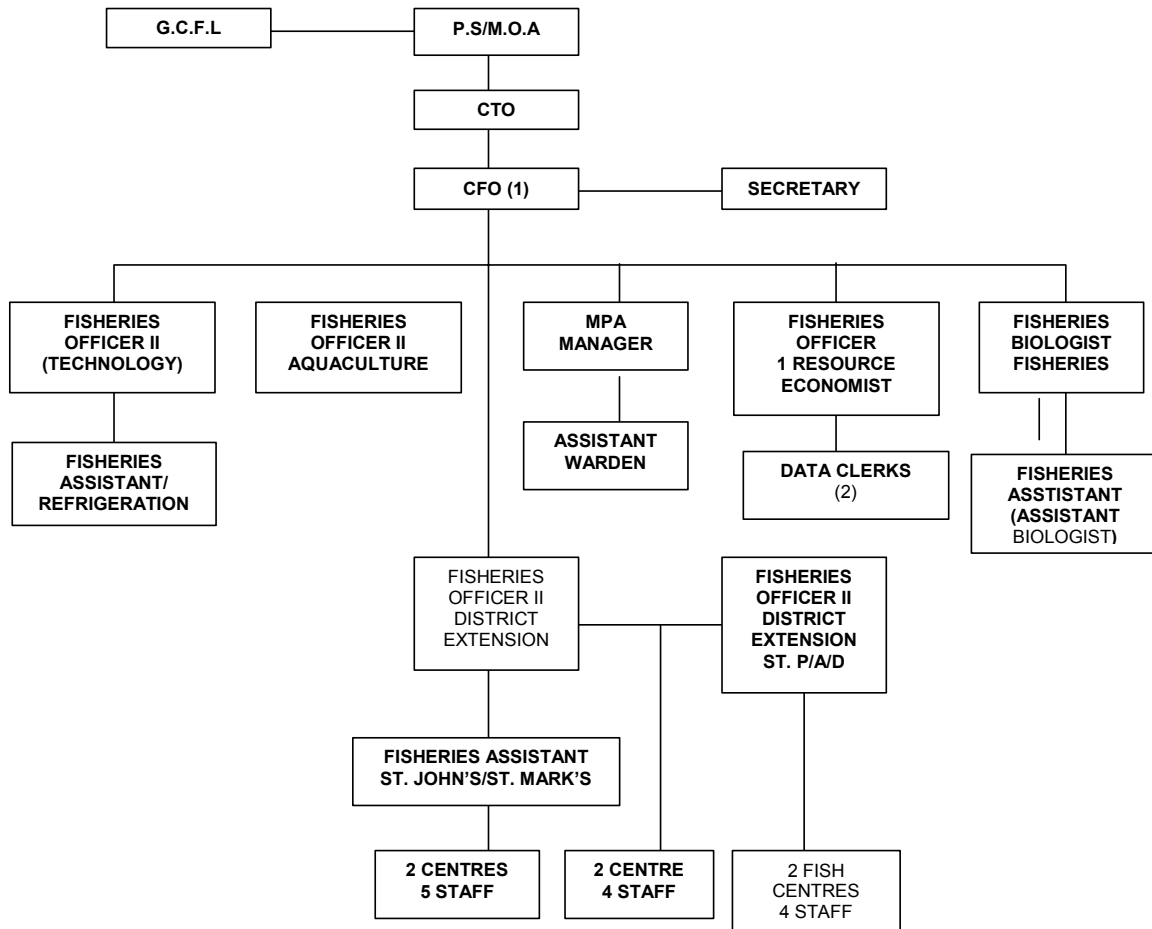


Figure 7.3 Fisheries Division structure and staffing

### 7.5 Gouyave Improvement Committee Limited

The Gouyave Improvement Committee (GIC) was registered under the Companies Act of Grenada on 30 October 2001 as a not-for-profit organisation whose business is community development. The first and present chairman is the manager of the Melville Street fish market and other initial members included an architect, engineer, statistician, bank clerk, fisheries officer, insurance clerk and some fishermen. The composition of the GIC reflects an attempt to incorporate the fishing-related intellectuals of Gouyave with the resource users. Membership categories exist for individuals and non-profit organisations of almost any type.

The group is the brainchild of the Member of Parliament for the area who is also the Minister responsible for fisheries. The GIC, which is also known as the St. John's or Gouyave Development Committee, was apparently formed informally to assist in directing relief and rehabilitation after Hurricane Lenny. Members are there as individuals, but almost all are strategically connected to resources that can be mobilised to assist the fishing industry. Based on its performance the group was formalised in 2001. In fishing, one of its main events is the annual celebrations surrounding Fisherman's Birthday on 29 June each year. The GIC has developed this into a very significant national event in cooperation with the SJFA (at least in name) and the Fisheries Division.

As noted previously, some fishers see the GIC as a possible agent for reviving the SJFA. A few see it as a rival or alternative to the SJFA, but these are in the minority since neither the structure nor operations of the GIC to date have indicated that it would become purely a fisher's organisation. Members of the GIC are aware of the SJFA being dormant and the need to have a viable fisher organisation in the town. However, those asked indicated a strong preference for the members of the SJFA to work within their own constitution to accomplish the sought revival.

### **7.6 Grenada Cooperative Nutmeg Association**

Fishing and nutmeg sustain Gouyave's local economy. Nutmeg processing is the most prominent industry in town, with the large processing station dominating the coastal landscape. The factory is part of a cooperative owned by the farmers. Regarding its economic contribution, the nutmeg factory employs 130 people working year round. It circulates about EC\$25,000 per week in the town through wages.

The factory's main community interaction is employment. Not much is provided by way of services, although for two years the factory has provided scholarships for farmers' children. If the nutmeg industry, which is very much globalised, should experience a downturn in Grenada, then the fortunes of Gouyave would rest even more firmly on fishing for its prosperity.

## **8 External institutional and organisational arrangements**

Moving beyond the organisations that are prominent in Gouyave and the beach seine fishery, there are several external institutions and organisations that impact on the fishery.

### **8.1 Ministry of Agriculture, Lands, Forestry and Fisheries**

Kairi Consultants (1999) view the ministry responsible for agriculture and fisheries as a key agency of government in combating poverty. They describe it as strong in the analysis of problems, but not as effective in bringing remedies to problems, revealing anticipation of the possible rather than execution of effective developmental measures. Government sources (Ministry of Finance, Planning and Development 2001 and 2002) suggest that agriculture sector growth is constrained by:

- Weak institutional framework and inadequate support services
- Small domestic and regional markets
- Inadequate and inappropriate information to support and planning and policy decisions
- Reduced incentives in the sector
- Weak infrastructure in particular roads, irrigation, marketing facilities for non-traditional crops
- Inadequacy of air transportation in terms of cost, and handling facilities
- Weak linkages with other sectors of the economy

The ministry needs to help fishermen to see themselves in a larger regional context, and "the equivalent of rural sociology is required in working with fisherfolk and the Ministry has to gear itself in that regard" (Kairi Consultants 1999). Although the Fisheries Division is present in Sauteurs, the Ministry itself is external to the sphere of operation of the fishery and its management. However, it has a very important role to play given the considerable extent of policy decision-making in this case.

The ministry's mission, to "facilitate agricultural development through promotion of sustainable use of natural resources and the provision of quality products and services to enhance the quality of life of our people", guides its roles and functions below (Finlay and Franklin 2002).

- Provide leadership and policy direction to the sectors

- Ensure sustainable use of natural resources
- Create the enabling environment for optimal agricultural production and investment
- Foster the use of appropriate technologies and information
- Provide quality services and products to all stakeholders.

The ministry delivers its services through a number of departments, divisions and statutory bodies, including the Fisheries Division and Grenada Commercial Fisheries Ltd. The latter is not particularly relevant to this case.

## **8.2 Cooperatives Division**

The Cooperatives Division of the Ministry of Housing, Social Services and Cooperatives is responsible for the registration and oversight of producer cooperatives and credit unions under the Cooperatives Act. There is little communication, and no collaboration, between this agency and the Fisheries Division on the management and development of fisheries cooperatives. They work separately. The Cooperatives Division has no official role in the management of fisheries.

However, the Cooperatives Division is currently trying to revive or strengthen several fisheries cooperatives that have become dormant. Early in 2003, the Division was approached by a group of fishers from Gouyave who expressed interest in forming a new cooperative. The Department has been working with these fishers on the process of getting them registered and established. This work is not being done in collaboration with the Fisheries Division, but the latter is aware of generally what is taking place.

## **8.3 National Fishermen Association (NFA)**

The founder and president of the SJFA started the secondary level National Fishermen Association (NFA). He and another organisation leader spent two years getting associations and cooperatives to agree to the constitution of the NFA by going around to meet and consult with them. They received assistance from ART in forming the NFA, which came into being at a fisheries meeting in Gouyave on Sunday 20 November 1988. Six fisherfolk organisations are listed as founder members.

The Association billed itself as the “collective and identifiable voice” of the 2,000 artisanal fisherfolk of Grenada, including Carriacou and Petit Martinique, with the mandate to negotiate assistance for the development of fishing technology. The NFA’s very long and progressive list of objectives covered almost every aspect of fishing including empowerment, governance, capacity building, Law of the Sea, networking information management and others. The NFA produced “position papers” on the Grenada fishing industry in 1989 and 1993 and contracted a socio-economic survey of Grenada’s fishermen in 1991.

Relevant to co-management, these position papers that were submitted to government for discussion raise a number of governance issues in a confrontational style, including:

- ◆ Promoting dubious benefits of foreign fishing, and issuing foreign fishing licences to large vessels, without prior proper consultation with the local industry or stock assessment
- ◆ Investment by ruling politicians in foreign fishing companies
- ◆ Indifference of government in providing technical fisheries and aquaculture training
- ◆ Ignoring the role of women in fishing by overlooking them in training
- ◆ Not producing, or making public, a transparent national fisheries policy
- ◆ Not producing a national fisheries plan through consultation with fishers as required by law

Sections of the papers also stress that although there are several cooperatives and other fishing bodies, true cooperation among them is lacking. This situation is partly blamed on the minister responsible for fisheries not visiting and interacting regularly with fishers as done with farmers. The NFA claimed to be the champion of equity and social justice for the entire fishing industry.

During all of the above the NFA was apparently an informal body. The NFA reportedly never got beyond monthly preparatory meetings and a draft constitution. For reasons that are not clear, the process apparently fell apart while getting lawyers to register the NFA constitution. Some respondents suggested party politics were to blame, while others felt that changes in NFA leadership precipitated its demise.

#### **8.4 Non-governmental and community-based organisations**

In their poverty assessment, Kairi Consultants (1999) paid considerable attention to non-governmental organisations (NGOs) and community-based organisations (CBOs) in the context of pro-poor strategies. The sections below are based mainly on their findings.

Ideally, community organisations allow members to mobilize and arrange themselves to make the best use of available resources to meet community needs and collectively solve problems. Grenada has a considerable number of NGOs and CBOs, along with governmental agencies engaged in promoting development and providing support for the poor and their communities. There has been some coordination amongst the developmental NGOs, but there is little coordination among NGOs and government agencies in addressing the problems of the poor.

As elsewhere in the Caribbean, NGOs and CBOs are often regarded as the base for opposition political movements and tend to be held in some suspicion by ruling parties. Because of this, governments have often resorted to establishing development agencies, which are designed to appear as NGOs. Most of the NGOs derive their resources from external sources. This too, tends to create suspicion in governments since these organisations, if deemed hostile to a government, cannot easily be thwarted by lack of state support. On the other hand, the relatively greater attention paid to lower income and food deficit countries elsewhere has reduced the flow of resources to NGOs in Grenada and other Caribbean countries with the result that they have to depend more on local funding, including subventions from government.

It is possible to identify two types of NGOs whose activities contribute to the development of the agriculture sector that includes fishing. First there are collective organisations that producers have established themselves and which are expected to help meet the needs of their membership. Second there are developmental organisations that direct resources, financial assistance, technical assistance and advocacy in the service of smaller operators in the agricultural and fishing sectors. The first category includes the St. Patrick's and Soubisse Fishermen's Cooperatives. In the second category, the Agency for Rural Transformation (ART) and Grenada Community Development Agency (GRENCODA) have assisted fisheries. The latter NGOs have assisted others to address their problems, identify solutions and collaborate, including engaging in negotiations and advocacy with the public and private sectors.

Grenada's community organisations are at various stages of development and vibrancy. Interest and participation vary widely, and are determined by leadership, the type of programmes and activities being offered, and whether these are meeting individual and community needs. People recognise the need for organized groups within a community, and in most there are church groups, community development groups, sports clubs and youth groups. In several community groups, the levels of interest and participation in their activities are very low and the same few

people are always involved. Reasons given for this included lack of interest, indifference and lack of motivation. Other reasons might be that the activities and programmes being offered are not relevant and, therefore, not meeting people's needs. Low levels of organisation skills may also be a factor.

### **8.5 Agency for Rural Transformation Ltd. (ART)**

The Agency for Rural Transformation Ltd. (ART) describes itself as a non-profit, non-governmental, rural development agency focusing on improving the quality of life of the rural poor and disadvantaged (ART 2000). The People's Revolutionary Government (PRG) originally established the agency in 1981 to facilitate agricultural and rural development. It was shut down following the demise of the PRG in October 1983. Due to demand from local and international sources ART was re-constituted as an NGO and re-opened in 1984. It continues its role to seek project funding for rural development and to mainly pass on the funds rather than implement projects. ART functions mostly as a financial intermediary and enabler/facilitator. Its Board of Directors includes representatives of the trades unions, business and churches. It is headed by a Secretary-General and has a small technical staff. The president of the SJFA has also served as chairman of ART's board. The 1998-2002 strategic work plan period focused on:

- ◆ Community empowerment
- ◆ Quality of life programme
- ◆ Advocacy, networking and fund-raising

In connection with Gouyave, ART provided assistance to both the SJFA and the NFA. It was reported that ART allocated EC\$198,000 in HIVOS donor funds to assist the SJFA in various ways, but there was no study of the failure of the Gouyave fishing cooperative that preceded the SJFA. There were also no fisheries-related studies of poverty or gender in Gouyave. General assistance was offered to the SJFA, followed by help in organisational development. This included the fuel depot and headquarters/shop building. ART also helped with advocacy in an attempt to elevate the status of the fishers, especially in dealings with government where the fishers felt disadvantaged. While the physical evidence of the assistance still stands in the form of the infrastructure, the organisational and human resource development left little mark. Changes in SJFA leadership could be one reason, but persistent deficiencies in management were also reported.

### **8.6 Grenada Community Development Agency (GRENCODA)**

The Grenada Community Development Agency (GRENCODA) describes itself as a non-sectarian, non-governmental organisation for rural development. It was established in January 1986. GRENCODA's focus is on assisting grassroots initiatives for holistic, environmentally friendly development, self-reliance and community building. Initiatives fall under the headings of:

- ◆ Community development, mobilisation and services
- ◆ Education and training
- ◆ Institutional strengthening
- ◆ Small business and entrepreneurial development

Although headquartered in Gouyave, GRENCODA's projects are mostly in poorer communities. Along the west coast of Grenada dumping of waste and excessive beach sand mining have led to pollution and erosion. In response to this the GRENCODA Coastal Resource Management and the Environment Project was developed and launched October 1995 with objectives:

- ◆ To raise popular consciousness on the need for better management of the environment and more positive environmental practices;



- ◆ To involve people and communities directly in identifying the issues and concerns and how to address these issues and concerns;
- ◆ To develop with persons now engaged in livelihood activities which threaten and despoil the environment, alternatives to such activities;
- ◆ To record, document the resources along the west coast.

The project was located mainly along nearly 20 miles of the west coast of Grenada, including about 12 coastal communities. The project enhanced awareness of threats to the environment using several mechanisms such as mass media (radio/TV), posters and community discussions. Twenty-five community consultations were held in twelve communities. A case study on sand mining was done. Community activities such as cleaning beaches and planting trees were undertaken.

This mid-1990s coastal zone management project had problems of sand mining and the need for coastal defences being raised in community consultations. However, it was reported that the recent sea defences consultation was hasty, unprepared and donor driven. Public meetings were more to announce what was to be done than to consult. People knew the individuals associated with the project, but there was no community liaison to keep coastal residents and users informed.

Immediately after Hurricane Lenny in 1999 the St. John's Coastal Rehabilitation Committee was established. It was chaired by GRENCODA. The committee surveyed the impacts of the storm surge, coordinated relief, made representation not to allow housing on the clearly vulnerable L'Anse, and raised funds for recovery of the seine net fishery. The latter was mainly through a successful proposal to the Canada Fund for Local Initiatives for grant and loan funds to assist fishing enterprises. The funds helped twelve male and one female fisher to repair or replace boats and gear, and to rebuild a house, respectively (Williams 2001). In the final report on the project Williams (2001) observed that:

- ◆ The project highlighted the fragile nature of the fishing industry and the impact of natural disasters on poor and vulnerable groups
- ◆ There is a need for strong and effective community organisations to mobilise and organise the fishing sector since disorganisation leads to individualism and political patronage
- ◆ The estimated 85% illiteracy and poor record-keeping of the fishers hampered and constrained the provision of documentation to justify relief
- ◆ The rehabilitation exercise should be part of a larger and longer poverty reduction strategy
- ◆ There is need for a contributory "Social Safety Net" fund to assist in such events that should be part of a comprehensive capacity building strategy

In interviews it was noted that from 1979 to 1983, under the PRG, there was a ministry of national mobilisation that fostered the kind of self-reliance that appears to be declining. It was said that community spiritedness exists, but is becoming secondary to payment for services. Patronage politics was said to be destroying social capital and killing the "maroon" spirit. Lots of community groups were said to have arisen in Gouyave, but these tended to be informal, undocumented, low in capacity and short of life span. A need to coordinate the activities of CBOs was identified in order to avoid the high levels of duplication that occur and to build capacity.

### **8.7 St. John's Social and Cultural Organisation**

Formed 4 years ago to revive and promote Carnival in St. John's, the St John's Social and Cultural Organisation (SJSCO) has organized a Children Carnival Frolic, parade of the bands, a

Senior Citizen's Queen Show, Gouyave Carnival City and St. John's Calypso Monarch. The National Cultural Foundation provides some financial assistance. The SJSCO is keen on promoting participation in social and cultural activities all year round. Apart from carnival, the group has assisted the poor, elderly and disabled with donations. The organisation has a committee of 22 members who form various sub-committees. Organisation members maintain that, culturally speaking, "Gouyave is St. John's", and this reflects strong community pride and identity in the town.

The SJSCO collaborates with the GIC in the latter's organisation of Fisherman's Birthday festivities, but is not otherwise closely related to fishing. Its relevance is the ability to effectively organise bodies around festive themes. Fisheries officers in particular remark that fishing industry organisations would be exceptionally successful if they put the same energy and collective action into other fisheries matters as they put into organising for Fisherman's Birthday. Typically, marginal fishing industry groups become dormant between these annual events.

### **8.8 Informal sector support**

The informal sector includes most small-scale fishing. Many persons earn their livelihoods within the informal sector, but what little support exists for it derives mainly from the NGO community. Traditionally, community self-help has been an important part of rural life (Finisterre and Renard 1987). The poor are generally starved of organisations that can help them to develop themselves, but the interventions and work of two development NGOs (ART and GRENCODA) were mentioned over and over again by poor people in these communities (Kairi Consultants 1999). These organisations have provided assistance to individuals and families to enable them to meet their basic needs. They have implemented community education and training programmes to help community members acquire and upgrade skills, and they have organized community projects to provide goods and services to communities. This includes some programmes in fishing.

### **8.9 Environmental legislation**

According to the National Biodiversity Strategy and Action Plan (NBSAP), there are about 40 Acts that together govern protection and management of Grenada's forests, soil and water conservation, planning, development and use of lands; provide for control of beach protection, management of fisheries, protection of marine reserves; protection of wildlife and habitats; control of pesticides, pollution and waste management. Enforcement of many is either poor or non-existent, either through lack of awareness of the particular legislation, lack of support for enforcement, unclear jurisdiction where there is overlap with several agencies and absence of accompanying regulations to respective Acts. Some pieces of legislation are inadequate and require revision. A need for better inter-agency collaboration was also considered essential for conservation of both terrestrial and marine resources.

### **8.10 Fisheries Advisory Committee**

The 1986 Grenada Fisheries Act is harmonised with that of other OECS Member States. The fisheries legislation of Grenada (SRO #9 of 1987) provides for a Fisheries Advisory Committee (FAC) (Box 8.1), but the information on attempts to form and sustain it is scant, and at present there is no functioning FAC.

*Box 8.1 Legal provisions governing the Fisheries Advisory Committee*

Fisheries Regulations 1987 made under section 40 of the Grenada Fisheries Act

- (1) There is hereby established a Fisheries Advisory Committee.
- (2) Fisheries Advisory Committee shall be composed of the following persons:
  - (a) the Permanent Secretary to the Ministry responsible for Fisheries who shall be the Chairman;
  - (b) the manager, Artisanal Fisheries, or its successor of organization who shall be Deputy Chairman;
  - (c) the Chief Fisheries Officer, who shall be the Secretary;
  - (d) at least 3 persons who shall be appointed by the Minister from among professional fishermen to represent the views of professional fishermen;
  - (e) such other persons as the Minister may think fit to appoint.
- (3) The quorum for conducting the business of the Fisheries Advisory Committee shall be 4 members including the Chairman and the Secretary.
- (4) The Fisheries Advisory Committee may invite the head of any Government department or his representative or such other person as it may think fit, to participate in its meeting where matters of concern to that department or person are being discussed or where it considers that his presence would benefit the deliberations of the Committee.
- (5) The functions of the Fisheries Advisory Committee shall be:
  - (a) to advise the Minister of fisheries management and development;
  - (b) to consider and advise the Minister on the plan for the management and development of fisheries in the fishery waters and each review of the plan;
  - (c) to consider and advise the Minister on any proposals for access agreements, joint venture investment in fisheries, or development projects in the fisheries sector;
  - (d) to consider and advise the Minister in any initiative for the regional harmonisation of fisheries regimes, including any regional licensing scheme for foreign fishing vessels;
  - (e) to advise the Minister on the coordination of the policies and activities of Government departments and ministries with respect to any of the above matters;
  - (f) such other functions as the Minister may from time to time assign to the Fisheries Advisory Committee.
- (6) The Fisheries Advisory Committee may establish its own procedures for its meetings.

Source: Fisheries Act

Records indicate that a first meeting of the Fisheries Advisory Committee was held on 25 June 1991 and attended by the Minister responsible for fisheries. Others present at this inaugural meeting were the Parliamentary Secretary, Permanent Secretary, representative of the Artisanal Fisheries Development Project, Chief Fisheries Officer, an attorney at law, a trader and four representatives of the National Fishermen's Association. Listed as absent were three vendors' representatives, and economist from the Ministry of Finance and the representative of the Grenada Consumers Union. It is not clear how many subsequent meetings were held, but the next record available occurs two years later.

In May of 1993 the Chief Fisheries Officer records that earlier that year the Minister agreed to the revival of the FAC. He recommends several fishing industry representatives to the Ministry that have been selected after consultation with the president of the National Fishermen's Association.

In July 1995 the Chief Fisheries Officer writes again about the revival of the FAC, stating that one was functional about 3.5 years ago but the fishermen lost interest in it apparently due to their efforts at constituting a National Fishermen's Association. He notes that most of the industry members of the FAC were from the executive of the NFA. At this time the Artisanal Fisheries Development Project has been replaced by Grenada Commercial Fisheries Limited.

Similarly, in August 2000, the Chief Fisheries Officer writes that the Minister wants the FAC revived and sets out another list of prospective members. The composition includes the presidents of seven fishing industry organisations, four fish processing and trading firms, a vendors' representative, Coast Guard and Customs.

Fishing industry respondents said that the FAC was not functional since, during short periods of its operation, the government made decisions without its involvement or consultation. Also, there were apparently no stipends available to cover the personal costs of members' participation such as transportation to meetings. Fisheries authority respondents suggest that the fishing industry was not prepared to play its part in the structure of the advisory committee.

### **8.11 Fisheries management plan**

Under the 1986 Fisheries Act the Chief Fisheries Officer is to prepare and keep under review a fisheries management and development plan. The first such plan is presently in draft form. Top Ministry officials indicate that the plan is under review by government, but further investigation suggests that it may not be under active consideration. The fisheries authority is not actively pursuing it, but the contents provide a useful framework for co-management if applied.

One of the 15 general strategic objectives is to "apply the comanagement approach to all the fisheries management and development programmes" (Fisheries Division 2002:2). Under the guiding principles, on the next page, it describes the comanagement approach as:

*the recognition and involvement of both resource user groups and governance agencies collaborating in order to facilitate both planning and implementation of fisheries management and development within the fisheries.*

The planning process provides for an annual corporate plan that seeks to implement the larger fisheries management and development plan on an incremental basis in keeping with the annual budget. Consultations with the fishing industry, especially through the Fisheries Advisory Committee, is recognised as a feature of the process. A section entitled "Fisheries within a co-management environment" generally identifies fishing industry stakeholders and describes the organisation of the sector. A section on approaches to management provides detail on the application, advantages and disadvantages of community-based management that includes co-management (Box 8.2).

**Box 8.2 Co-management and community-based management approaches**

INSTRUMENT/ TOOL TYPE	APPLICATIONS SCOPE/USE	ADVANTAGES BENEFITS TO MANAGEMENT	DISADVANTAGES DISBENEFITS TO MANAGEMENT	COMMENT
<p>(Local area cooperatives)</p> <p>Tool: tax and duty free concessions on supplies/services</p> <p>Tool: Legitimization of traditional community practices</p> <p>Co-management tool: Representatives involvement</p> <p>Tool: FAC (Inter-agency collaboration)</p> <p>Tool: inter-agency working relationship</p> <p>Tool: inter-agency working relationship</p>	<ul style="list-style-type: none"> <li>Subsidies to registered cooperatives for delivery of supplies and services to members</li> <li>Territorial use rights in fisheries (TURF) practices in beach seine fishery</li> <li>Fishery Advisory Committee provided for by law</li> <li>Governance agencies and other stakeholders tasked to implement specific process e.g. gearing up sector for new fish quality control regime</li> <li>Formal memo of agreement (MOA) or informal standing operations procedures and practices e.g. Fishery Authority and Coast Guard Services join together for rescue and security of fishing vessels in distress</li> </ul>	<ul style="list-style-type: none"> <li>Fishers involvement in costs and benefits of their own businesses with reduced government responsibility for MCS</li> <li>Reduce intra- and extra-fishery conflicts; create security among beach seine fishers</li> <li>Fishers are able to use more direct and open forum as avenue for representing views to government</li> <li>Working relationships fostered among agencies</li> <li>Consensus established over period of time</li> <li>Ease of response to rescue at sea and for monitoring, control and surveillance of the fishery waters against foreign fishing</li> </ul>	<ul style="list-style-type: none"> <li>Fishers could fail to give fullest support to cooperatives initiative</li> <li>Management by fishers</li> <li>Greater involvement by authority in MCS of fishery</li> <li>Fisheries often expect immediate responses and results on current issues</li> <li>Activities could be constrained when consensus takes considerable time</li> <li>Obligation to maintain a system of SOPP with fishermen must be satisfied by the Fishery Management Authority</li> </ul>	<ul style="list-style-type: none"> <li>Fishers often choose alternative options for purchases and are often disloyal to their own cooperatives</li> <li>Licensing and control of net units required</li> <li>Government on point with respect to views of fisher community</li> <li>Outcomes are quicker when the process is compelled by factors outside the fishery than when impelled based on fishery interests only</li> </ul>

**8.12 Integrated coastal management**

Grenada has no discrete coastal management unit. This responsibility is spread amongst agencies, but lies particularly with the Physical Development Department. Documents on

coastal management often relate to the United Nations Framework Convention on Climate Change that Grenada ratified on August 1994. At Gouyave, one of the main community concerns, although not a major issue for government agencies, is river use.

### **8.12.1 Sea defences**

The construction of sea defences that is taking place with the aim of protecting the coast against further damage is primarily in the same bays where the seine hauls are located. The roads to be protected run along the seashore in these bays, and the sea defences involve substantial stone revetments along the shore often where beaches were previously located. Therefore, the seine fishers are very concerned about whether these works will prevent the beaches from becoming re-established, or indeed contribute to the erosion of the remaining beaches.

Grenada has entered into a 4.7 million dollar contract to do sea defence and road expansion work at Gouyave in light of the devastation done by Hurricane Lenny. Sea defence work along with walls have been done along the section of road between the bridge just south of Cuthbert Peters Park and the entrance to the town of Gouyave, a length of just over 300 meters.

People interviewed reported that the town accepted the sea defences as necessary, so there was no conflict with their construction. Yet many learnt of the sea defences only by seeing them being constructed. There was no consultation. Information spread by word of mouth. Sea defences do not stop seine fishing as the fish are now ringed offshore. A few fishers concluded that beach seines destroy the seabed by scraping off useful habitat and fish eggs. They claim to have observed that new areas fished by seines are becoming less productive. They see the sea defences causing fish to be ringed offshore as a good development because there will be less damage to the seabed. Since less fish will have to be given away to net helpers, there will also be more revenue to share among the fishers.

### **8.12.2 Pollution**

In Gouyave there are longstanding problems of pollution of the coastal waters from land based-sources (pers comm., P. Moore). These include solid waste dumped into the river that washes down to the sea. It also includes sewage disposal. There is no central sewerage system. Some houses have septic tanks, others have pit latrines, in some cases sewage is dumped in the river, or the beach itself is used. Some inhabitants depend on the public facilities. Problems are greatest in the northern area of town, north of the bridge, known as the L'Anse. Nonetheless, there have been improvements in sanitary facilities in homes in the town in recent years. Coastal pollution can result in health threats when fishes are caught from the polluted areas.

There is no monitoring of coastal waters for coliform bacteria or other pathogens. There is a proposal under consideration for monitoring coastal recreational (sea bathing) areas. When it is agreed upon, it will be included in the national budget. The fish market is perceived as having the potential for human health problems through contamination of fish landed and processed there.

Fishers perceived problems of waste discharges dumped into the river upstream, such as oil from automobile mechanic shops. They observe plastic bags, and even household appliances, being washed downstream. Citizens are concerned that there is now more plastic in the river and that garbage causes flooding when it is washed downstream by storm water. Pollution from agrochemicals like pesticide and fertiliser sprays is of concern. Fishers suspect negative impacts on fish habitat and marine life. Some fish, such as eels and tarpon, are no longer seen in some of these areas. Fishers want government to investigate.

The nutmeg factory in Gouyave used to place a large pile of nutmeg shells on the beach each day for the sea to remove. About 20 bags per day of shells at 100lb each, or approximately one ton, used to be taken away by waves and transported along the seabed southwards towards Palmiste alongshore, but seldom offshore. Dumping started when the factory was built in the 1950s and stopped about 1990. In the early decades it was the general practice of the community to dump waste on the shore, and poorer people took the shells from the pile to use as their domestic fuel source for cooking.

One fisherman-activist spearheaded initiatives to stop dumping by complaining to authorities and the public, but the current manager of the factory was not sure of if this outcry was the primary reason for stopping the practice, or whether the protests happened to coincide with more enlightened solid waste management. Now the nutmeg shells are used inland for mulch, small-scale landfilling and still as a fuel source. These uses are beneficial. No local research has been done on the possible uses of the shells for by-products or their suitability as fuel.

### **8.12.3 Sand mining**

One of the components of Portland cement concrete is beach sand. Traditionally, as most construction has been of timber, the impact of sand mining on beach erosion has been minimal and the rate of recovery was sufficient to compensate for this mining. In the last 20 years, the rate of construction has steadily increased and the increased need for, and use of, beach sand has led to an imbalance of sand regeneration. This has created significant beach erosion in areas like Palmiste, near Gouyave.

### **8.13 External assistance**

Hivos (the Humanist Institute for Co-operation with Developing Countries) is a Dutch non-governmental organisation that is committed to the poor and marginalised, and to organisations that promote their interests. Sustainable improvement of their situation is their aim. An important cornerstone is strengthening the position of women in society. In the case of Gouyave, Hivos has been the most significant external source of assistance for fishers, through ART.

The sea defences were also constructed with external aid, but the major fisheries work that is still to come is a planned fishing harbour and terminal at the northern end of the bay. This Japanese facility intended to shelter up to fifty 40ft longliners. It is due to start by 2005 and finish 2007. Emphasis is on safe harbour, maybe with lift-out, plus only small processing and retail areas since large pelagic fishes move quickly through Gouyave for export. Still several years away in planning and construction, most fishers agree with the plan to provide this significant infrastructure, but design has not yet reached the stage of consultation on details.

## **9 Exogenous events**

Exogenous events are those beyond the control of the resource users, fisheries authority and often the entire fisheries management system. They are more than uncertainty in the system, but include sudden shocks and surprises that test the resilience of both ecosystems and human systems. Obvious examples are most types of natural disasters, but macroeconomic and social impacts are also very relevant to the small open economies of Caribbean countries.

The vulnerability and adaptation analysis prepared by Peters (2000) provides much of the information below.

## **9.1 Hurricane vulnerability**

Grenada has limited low or flat land (1.9% of the total area, about 590 hectares, with less than 2% slope). This is concentrated along the coast. Most economic activities, communications, settlements and infrastructure are near the coast. All are vulnerable to sea level rise from possible permanent or temporary flooding. This vulnerability was highlighted during the extreme and unprecedented storm surges during the 1999 hurricane season.

Grenada is on the southern path of the hurricane belt, but tropical storms have affected the country many times. Between 16 – 19 November 1999, category-four Hurricane Lenny packed winds reaching up to 200-220 miles per hour that produced surge flooding of 3 to 5m above normal tides, accompanied by large and dangerous waves. Intense rainfall and winds caused flash floods and mudslides. The damage to road infrastructure, private property and beaches was estimated at about EC\$700 million, or twice the annual budget of the country. Recovery from damage was estimated to take 5 - 10 years with external assistance. Most of the coastal damage caused by Lenny was along the west coasts of the islands, which is where the majority of the beach seine fishery takes place.

The storm surges of late 1999 displaced the L'Anse (or Lance) community in Gouyave after 12 homes were destroyed. A few months afterwards residents returned, reconstructing homes in the same area. Government and NGOs tried to encourage residents to move to higher grounds, but to no avail. Without appropriate legislation and enforcement, similar situations are likely to re-occur. Areas, such as the beach communities on The Lance, where costs of sea protection work exceed benefits may have to be abandoned as an option for addressing vulnerability.

## **9.2 Other vulnerabilities**

In terms of other vulnerabilities, there is also a tsunami threat from "Kick 'em Jenny", an active volcano about 150 m under the surface of the sea 7 km north of Grenada. Very recently another undersea volcano was discovered a few kilometres away. Earthquake is another hazard, and an active fault exists in the Levera area.

In 1999 a bacterial agent is believed to have caused a significant demersal reef fish kill, creating scarcity in the domestic supply of fish. During the fish kill, fisherfolk who fall into the lower socio-economic strata were unemployed for 3 to 4 months. The overall lost earnings of these people were suspected to be significant. The cost to government in the form of financial support or other remedial measures was not available.

# **10 Co-management incentives and patterns of interaction**

The resource system and human system characteristics described in previous sections provide incentives for the stakeholders to engage, or not to engage, in co-management. Incentives to cooperate, or not cooperate, vary with the stakeholders, particular circumstances, time and other factors. Co-management arrangements are dynamic. Although incentives are variable, they must always exist to make the effort of co-management worthwhile, otherwise it will not be sustainable. Finding new incentives to sustain co-management institutions can be a constant challenge for all partners. Patterns of interaction reflect the nature of these positive and negative incentives and the types of partnerships that may be formed or sustained in co-management.

## **10.1 Community consultations**

The Grenada Fisheries Division prides itself on holding consultations with the fishing industry on most major matters, or where significant conflict arises. A section of the draft Fisheries



Management Plan is entitled: Fishing Community Consultations and Engagements Between Fisheries Administration and Fishers — 1980 to the Present”. It states that significant consultations and engagements between the Fisheries Division as the governance agency and fishers representatives and have contributed to strategic management and development processes, and summarises some of them as follows:

Consensus building consultations within the beach seine fishing community

- ◆ Conflict situations resulted in protracted consultations 1982 — 97.
- ◆ Workshops organized at main beach seine fishing communities achieving national consensus 1997.
- ◆ Follow-up series of consensus-building consultations within the beach seine fishing community seeking to statutorize community-based Code of Conduct March/February 2002.

Fishers participation in a Fishery Advisory Committee.

- ◆ A first period of operation 1989 — 92 when fishers representatives withdrew support because of Government’s policy on foreign fishing operations.
- ◆ A second period of operation 1992—1994 during which time fishers sought to set up an umbrella (apex) National Fishermen’s Association based on village fishermen’s cooperatives/associations.

Zoning of the Milet or L’Anse Bay, Gouyave, St. John’s; a Case of Co-management

- ◆ The Fisheries Division and community of Gouyave fishers collaborated in zoning of the bay facilitating beach seine operations close to shore and longliners on dead-anchor further offshore.

This latter event was not conclusive. Conflicts between nets and boats persist as illustrated below.

## **10.2 Conflict in the bay**

A major issue for the fishers of Gouyave is the obstruction of seining by longline boats moored (on “dead anchor”) or anchored in the bay, and tied to the jetty. This is a matter that, along the L’Anse, has lead to heated disputes, intervention by fisheries officers and cases in court.

### **10.2.1 Nets versus boats**

Finlay (1995) reports on the 1993-94 intervention by the Fisheries Division on the “dead anchor” (mooring) conflict between seiners and longliners. Little has changed since then. In essence, fish gather in the Gouyave mooring area used by about 40 boats, but seining is obstructed by the longline boats as described above and depicted by Finlay (Figure 10.1).

Seiners untie boats from mooring, anchor or jetty in order to disentangle or clear a path for the net, and then allegedly forget to tie them back, or do not re-tie them securely, so they drift loose. Longline owners maintain that the seiners are liable for the consequences of their action and generally take no action to safeguard their property or assist the seiners. The boat owners resist moving their vessels further offshore since this would reduce convenience and safety (due to the passage of large vessels). Less of an issue, but still contentions, are the sacks of live baitfish that are moored by the longline boats.

Usually the owner or a fisher associated with the particular vessel will spot and rectify the problem. Seine boats may also collide with others. Fishers reported that, when boats “bounce”, the fellows usually agree to fix problems amongst themselves. However, if fellows do not “own up” for damages that they have caused, then the loser takes his loss and no one informs on

the culprit to the Fisheries Division, or helps the party that is aggrieved to investigate the incident even if several people saw what happened.

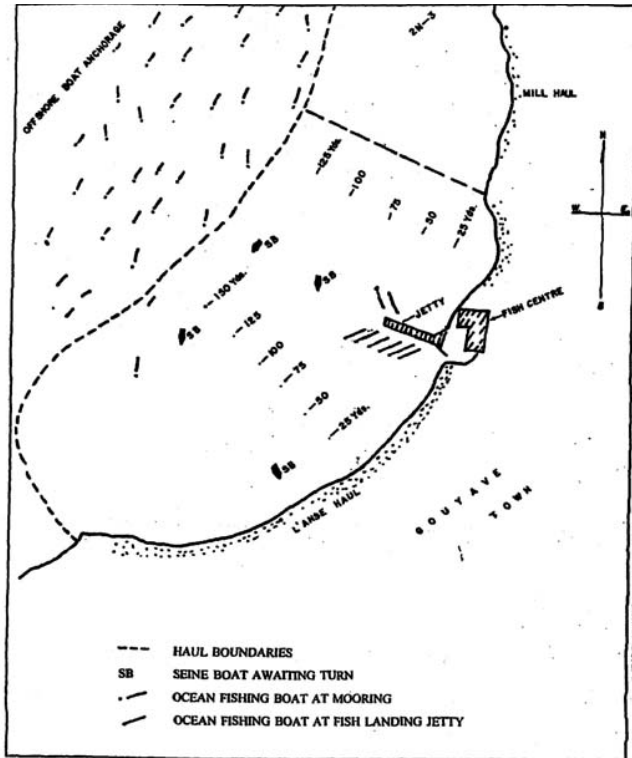


Figure 10.1 Proposed zoning of moorings to reduce conflict  
(From Finlay 1995)

### 10.2.2 Saga of the sunken longliner

Despite the above scenario, longline fishers maintain that “nothing in Gouyave happens for spite”. No malice is intended by leaving boats in the way of the seiners. It is just that every man looks out for himself, and it is inconvenient for longliners to relocate their boats elsewhere. During this study a vessel sank at its mooring in the way of net operations as described in Box 10.1 below.

#### Box 10.1 Saga of the sunken longliner.

A 12m longliner sank on the morning of 16 September 2002 in the net haul reach near the river mouth south of the L’Anse. It remains on the seabed as an obstacle to seining. The vessel did not fish regularly and the owner let it become virtually derelict at the mooring. Just prior to sinking it was stripped of valuables in preparation to be hauled out for repair.

The pressure of a seine net caused the boat’s mooring to “trip” from its usual place by L’Anse to a position near the river mouth. The net captain allegedly promised to get his crew to move boat back to its original location but did nothing. It is believed that a live bait sack may have been

hung onto the side of the boat. When it was “bounced” a hole formed in the hull and the uninsured boat sank. It cannot be salvaged for productive use, but it obstructs seining or allows fish to escape if the nets try to avoid it. There seems to be consensus that the wreck should be broken up and dragged out into deeper water if it is not removed from the sea.

The owner/captain is taking no action since he sees this as someone else’s responsibility now. He claimed that he would move the boat if it sunk at its usual mooring instead of its present location where he did not put it. No direct answer was obtained when he was asked if he would object to other fishers dragging the wreck into the deep. The net captain maintains that the boat was no loss given its bad condition, and says it is for the owner to tell the fishers that they can put it in deeper water. No one is sure who should lead this community action, and there is no precedent for this in community leadership. Fishers said that it might be put to the GIC to solve, but not the SJFA. Some fisher recommend for a group of fishers to “come together” to decide on action and divide the responsibility, but no one can identify a leader to accomplish this.

Fishers also want government to take action, but there is no sign that the Fisheries Division is interested in intervening since it has no legal jurisdiction over wrecks. Fishers were advised to approach the Receiver of Wrecks themselves, but no person or group has been identified to do this. The Fisheries Division is perceived as having little influence. Some officials suggest that action by government would best be precipitated by the fishers approaching their parliamentary representative who is also the fisheries minister. This state of affairs has remained unchanged for six months, and it is likely that seiners will continue to suffer and absorb the losses, and longliners receive reduced quantities of bait while nature takes its course to corrode and erode the wreck.

The vessel remains on the seabed to the present in the absence of formal or informal mechanisms to deal with such matters of conflict efficiently. As illustrated later in the summary of the workshop on legalisation of traditional rules, fishers demand government intervention through legislated zones as the best solution to mooring area conflicts in Gouyave.

Conflicts brought to the attention of the Fisheries Division for help besides the Gouyave mooring, include bonito trolling at Beausejour where a gear conflict was resolved. Derelict boats on beaches are seen by fishers problem for the Fisheries Division to deal with rather than fishers or other community members impressing upon boat owners the need to have derelict boats removed from the foreshore. The public market fish waste is reportedly disposed of by market staff in the surf on the L’Anse despite knowledge that this is a public health hazard. This too is seen as a government problem since the Gouyave community in general does not deal with its own solid waste problems.

In these cases, fishers usually bring complaints to the Fisheries Division, but the action taken (if any) is not usually officially recorded or publicised. Each conflict is seen as a separate event, with institutional learning taking place mainly through information exchanges among the fisheries officers involved. Fisheries officers reported having the perspective that it is best to leave conflict management to the community, rather than to intervene with legislation or government administration since these are less responsive than the resource users seem to believe or wish.

### **10.3 Traditional beach seine rules revisited**

Box 5.1 described the traditional beach seine rules investigated by Finlay over a number of years and consultative processes. He also researched what other issues and provisions had to be addressed in the context of integrated coastal management. In personal communications Finlay provided insight on some of the main points that were critical in taking this process forward based on his unpublished notes on the consultations and on his thesis. Some are summarised as follows:

- ◆ Consultations followed up on thesis research results in favour of legalising traditional rules
- ◆ Consultations were primarily for consensus building to support legalisation
- ◆ It is important to identify rule differences and their scale of application since not all may require legalisation
- ◆ During the consultations there was a misunderstanding that zoning would have restricted fisher movement between clusters. Such movement occurs 17% of the time.
- ◆ Carriacou does not follow many Grenada seine rules. Rules must suit area being fished.
- ◆ Consultations were only intended for consensus among seiners; were to be broadened later
- ◆ Meetings were announced on radio and attended mainly by net captains and “second men”
- ◆ Since the 1997 consultations there was no feedback to participants on paper on outcomes
- ◆ Information on consensus was spread by word of mouth from Finlay to key participants
- ◆ There is enough information now to put the rules into regulations, and this recommendation is officially on file, but no one is allocated responsibility to follow up in the Fisheries Division
- ◆ The Chief Technical Officer and Minister need to be convinced of the need to legalise by seeing that there was consensus from the consultations on the rules and their legalisation
- ◆ Need to assign a legal and fishery person to draft fishery regulations with explanations for the provisions. Review draft at community level and then implement immediately.
- ◆ Content of regulations should include: penalties; limited flexibility to change or suspend rules by area; listed local area exceptions; community-based judgement or interpretation process
- ◆ Option of local area management is doubtful beyond for rule exceptions.
- ◆ It would be institutionally inefficient to create lots of small local management authorities.
- ◆ Fisheries Division should know the rules and publicise them prior to legalisation

This project built on this work by first re-visiting the views of fishers on a number of issues related to the rules before looking at the options for the way forward. This introspection by a focus group convened on 17 September 2002 is recorded in Box 10.2.

#### ***Box 10.2 Seine fishery focus group***

Participating in this evening time focus group were eight net captains and sailors, ranging from 23 to 64 years of age, all males with primary education who had previously attended the seine fishery consultations conducted by James Finlay. The questions and their responses are summarised below:

1. Are the traditional seine fishery rules still being used in the fishery today?
  - ◆ Rules are known and in use
  - ◆ Everyone cooperates on L'anse since you can cast anytime.
2. What would be the advantages of making the traditional rules into fishery regulations?
  - ◆ Should be less problems with moored boats
  - ◆ People now ignore the rules
  - ◆ Fisheries officers would be forced to take action such as to move the recently sunk boat since fishers cannot take action

- ◆ Empower fishers to take action such as moving boat and forcing owner to pay
  - ◆ Less pressure on fishers to solve problems ... government is the problem solver
3. What would be the disadvantages of making the traditional rules into fishery regulations?
- ◆ People will ignore them if necessary to achieve flexibility
  - ◆ Taking people to court could turn into tit-for-tat vendettas
  - ◆ Cannot apply unless there is provision for rules to differ by location
  - ◆ [An argument ensued about when and where encircling a boat is wrong]
4. What role, if any, should people in the seine fishery play in the regulations?
- ◆ Participate in discussion about the content
  - ◆ Should have opportunity to advise lawyers
  - ◆ Perhaps none, since the Fisheries Division should decide on the law and fishermen should abide ... you will never get everybody to agree on the regulations
  - ◆ [Group did not conclude what form of interaction would work ... e.g. representative committee or community meetings, but tended towards the latter]
  - ◆ Group noted that half of the seiners were in the SFA, which should be able to call a meeting if it was functioning
  - ◆ Seiners want boat (longline) men to show respect by following the rules about mooring and anchoring that would improve seining by removing boats as obstacles
  - ◆ Longline live bait sacks are a newer obstacle
  - ◆ Most urgently needed is law about obstacles in the way of seines
  - ◆ Longliners depend on seines for bait so it is difficult to understand persistent conflict. Goes back to lack of respect between fishers
5. What things are likely to help make the rules work as regulations?
- ◆ Ongoing dialogue about the regulations
  - ◆ Action in enforcement, not just words
  - ◆ Empower fishers to implement parts of the laws
  - ◆ Using the law to settle arguments
  - ◆ Flexibility to allow different rules to apply in different places as presently done
6. What things are likely to cause the regulations to fail, and not be useful?
- ◆ Fishers not being told about the laws, but remaining ignorant
  - ◆ Seiners are not sure if there is a law about seine net mesh size, but believe everyone should be able to select his own size since demands are for fish of different size
7. What other measures are needed to manage or improve the seine fishery?
- ◆ Better market for fish ... too much fish is wasted
  - ◆ Lights on the bay for security, emergencies and late night fishery operations
  - ◆ Fishers need to respect each other ... some think it should start from the top
  - ◆ Respect from government and public for the ideas of ordinary people like fishers
  - ◆ [Group did not readily catch on to the idea of a fisher organization assisting]

This focus group served to verify many of the findings from the Finlay consultations. It also confirmed that there were large formulation and implementation gaps to be filled that could be used to demonstrate co-management and learn from the experience.

#### **10.4 Process for achieving successful legalisation**

Following this focus group, a larger workshop on regulations for the seine net fishery was held on 13 October 2002. The workshop was attended by 17 people including fishers, seine owners, longliners, vendors and fisheries officers. It addressed the process leading up to the proposed seine regulations and then the implementation of them as summarised in Tables 10.1 and 10.2.

*Table 10.1 Process involving fishers leading up to implementation: making regulations*

<b>Proposition put to workshop</b>		<b>Response of participants</b>
A.	Legal officer drafts regulations; implement them without further review	Bad option as too much power in one person. People in industry must play a role. Cannot work this way.
B.	Legal officer drafts regulations; hold community consultations to review	Too many people to go to right away, not likely to get a good result from a mass meeting. Prefer a well-informed small group to work first on problem.
C.	Group of seine experts review draft regulations before implementation	Better than previous. Need to consider composition of group so that key people would not be left out. Need to avoid situation of insiders and outsiders; bog versus small men.
D.	Group of seine experts review draft regulations before consultations, then implementation	Better than C because everyone gets to participate. Not very concerned about a few dissenting voices from those who are not part of group when wider consultations are done. Do not expect everyone to agree, but the regs should reflect the views of the majority. Consider putting out a "fisherman's manifesto" saying what should be done about the rules and other things.
E.	Group of seine experts works with legal officer in drafting regulations; then consultations before implementation  <u>PREFERRED OPTION</u>	Best option to work. Lawyer needs to come to the group and work with it at the group's convenience. Group should be paid. On issues of impasse between the group and lawyer the group should get the benefit of the doubt even if the matter has to be tested in law. Intermediate option of having a higher placed legal person to determine outcome of conflicts with the group lawyer.
F.	Group of seine experts drafts layman's regulations, then put into legal language by a legal officer for the group to review, before consultations, then implementation	The group working without the lawyer would not be respected or listened to by the other people in the industry. So less preferable than E since lawyer confers power and authority on the group. Gives it legitimacy of purpose.

The results above demonstrate the willingness of the fishers to play an active role in drafting the regulations. This could be approached as a co-management activity, continuing onto the public consultations. After this session, a discussion ensued on the extent to which fishers should remain involved in implementation of the legislation, and what their roles could be (Table 10.2).

*Table 10.2 Process following implementation to ensure success*

<b>Proposition put to workshop</b>		<b>Response of participants</b>
1.	Wide circulation of new regulations by posters, video etc. to explain to fishers and public how the rules are to work	Must circulate. Use TV and radio documentaries and posters. (Impression that booklets of rules would not be best medium due to literacy limitations.)

<b>Proposition put to workshop</b>	<b>Response of participants</b>
2. Should net cluster areas be managed by communities like local management areas	Communities are not ready yet for management roles and responsibilities. Would be too much of a burden.
3. Should there be community-based enforcement such as by fishery wardens selected from among the fishers to get people to comply with regulations	Could not agree. Some say the fishers would make the best enforcers, backed up by regular agencies like police, because they know the fishery and the people and would be respected if authorized. Others say that people from the community in jobs of authority now, such as in the market, are abused and disrespected so fishers would not work
4. Should community or seine fishery group be part of non-judicial two-tiered judgment system where smaller conflicts are taken to group and, if resolved, do not have to be taken into the court process?	Would much prefer the court as a last resort if there was a structured way to bring matters to a community body that had authority. Present case of sunken boat was cited as example. Thought that the same seine expert group plus lawyer could serve this function after the regs were implemented. Only if there was no resolution at community level would the matter enter the normal court system
5. Should there be a panel of seine experts the court should call upon for - interpreting the seine situation in the offence - advising on the penalty most appropriate	Seiners should have a say in both since experience suggests that the court system does not understand fishery matters well.
6. National seine fishery association with community chapters to promote laws, oversee and coordinate implementation	Need a national group and would strive to make it work despite record of fisher groups not working well including in Gouyave
7. Will the ability to take everything to law weaken the ability of communities or groups of fishers to solve their own problems? Fostering dependency?	Community is already weak so having the law could do no more harm. May help to strengthen it by providing a solid foundation for community action

These additional results indicate that fishers wish co-management arrangements to continue into the implementation of the regulations. They were aware of the difficulties of forming and sustaining an organisation to represent themselves in any interaction with government over the operation or updating of the proposed legislation.

### **10.5 Legal structure and operations**

A third workshop on legalising seine fishery traditional rules, but with more detail on what the legal structure and operations would look like, was held on 9 March 2003. This exercise was designed to approximate the preferred option of drafting, or at least outlining, the legal provisions with the assistance of a legal adviser. Seventeen people including net captains, fishers and fisheries officers attended it. Other coastal management issues such as the obstacles to seining were also addressed.

### 10.5.1 Obstacles in the L'Anse haul area

Participants identified three types of obstacles that impede beach seining in the areas of the L'Anse and often cause serious conflict:

- Fishing boats moored in the bay
- Fishing boats anchored in the bay
- Live bait cages (sacks) in the bay

### 10.5.2 Traditional rules

Participants identified three options for managing conflicts:

- Informal Gouyave community "conflict council" for the seine fishery

Fishers rejected the suggestion of establishing their own informal group or council to which seine disputes could be taken. They claimed that compliance with the decisions of any local informal council would be extremely low, if the group was utilised at all.

- Informal Grenada national "conflict council" for the seine fishery

There was some support for an informal national seine dispute settlement group, but again it was stated that compliance would be low if decisions did not have the force of law.

- Formal tribunal or arbitration panel for the seine fishery

The final, most formal, and preferred option was for the traditional rules to be put into fisheries regulations, but a special tribunal rather than magistrate would be the forum for dispute settlement. This appealed to several of the fishers who saw criminal convictions as being harsh for rule breaking (as distinct from the clearly criminal acts of violence that may occur a lively dispute)

Workshop participants agreed that if the tribunal comprised five people, they would recommend:

- An experienced and respected seine fisher, who could be considered an expert
- A private sector businessperson, such as from the Chamber of Commerce
- An experienced senior fisheries officer who has knowledge of seine fisheries
- A teacher (wise person able to take multi-faceted decisions), familiar with fishing
- A youth leader, likely to understand attitudes of younger fishers who break the rules

The group also considered the sequence of actions and responsibilities that would apply in relation to an arbitration tribunal being the preferred institutional arrangement (Table 10.3).

*Table 10.3 Recommended sequence of actions with responsibilities*

Stage	Action in conflict management process	Stakeholder responsibilities	Considerations of workshop participants
1	Conflict arises due to breach of beach seine rules that are in law	Disputing parties report the incident to a fishery officer and fishing organisation	Fishers want to avoid drawing the police and criminal justice system into dispute settlement
2	Informal attempts at conflict management	Parties, officer and/or organisation try to reach speedy resolution	The advice of fisheries officers is often sought. At present no fishing organisations are able to assist, but would be ideal
3	Formal complaint made to tribunal if no informal resolution is achieved	Complaint laid by disputing parties themselves; a fisheries officer or lawyer may or may not assist	Having the fisheries officer responsible was rejected as seen as a shirking of disputants' rightful duties



Stage	Action in conflict management process	Stakeholder responsibilities	Considerations of workshop participants
4	Tribunal examines the evidence brought, and may not conduct its own investigation	Disputants bring their own evidence, lawyers may be barred, fisheries officers and others perhaps used as experts	Lawyers may be barred in order to keep the field level, costs down and proceedings simple. Doing independent investigations may be costly.
5	Tribunal provides facilitated negotiation or mediation	Disputants and professional assistance attempt resolution again	Important that a last attempt be made for the disputants to reach their own settlement
6	If not resolved, tribunal makes a legal decision and perhaps awards compensation to the party wronged	Members of the tribunal exercise the powers provided to them under the law on the basis of the rules in law	Participants advised that the State would likely fund the tribunal and get little or no revenue from the penalties imposed
7	Enforcement of the tribunal's decision or appeal to authority	Disputants abide by the decision or appeal to the appropriate legal authority	This was not discussed in detail, but the existence of a high body was assumed

### 10.5.3 Options for co-management of the seine fishery

Participants recommended that the fishing industry retain involvement in two main ways:

- Be involved in reviewing the performance of the new arrangements after 3 to 5 years
- Be represented at the national level by a fishing industry body.

### 10.5.4 Conclusions

The project researcher and legal adviser reached these conclusions from the workshop.

- There was consensus on traditional rule recognition and the need for legalisation
- The flexibility of the regulations will have to vary with the subject matter of the rule
- Fishers want to ensure that punishment fits the crime (usually loss of earnings)
- Rules may be subdivided into ones mostly compensatory and others more criminal
- The civil tribunal system of facilitating rules settlement prior to decisions was favoured
- Mooring basin zonation is not feasible on a community basis, so also needs legal weight
- Fishers prefer to have solutions imposed rather than to strengthen means of self-regulation
- There was scepticism about compliance with rights allocated through a licensing system
- The structure and function of the tribunal needs to be developed further collaboratively
- Models of legal provisions should be used to structure joint decisions on these matters
- Due to coastal protection and development, conflicts with seining are likely to increase
- Given the social and economic importance of the seine fishery, follow-up is recommended

### 10.6 Dimensions of conflict

In the process of implementing these workshops insightful comments were made on dimensions of conflicts that motivate the demand to have traditional beach seine rules legalised (Box 10.3).

#### *Box 10.3 Comments from fishers on seine conflicts and legalisation of traditional rules*

- ◆
- ◆ Confusion and conflict were greater in the beach seine fishery when there were more nets
- ◆ No one follows rules as there are too many boats now; conflict occurs 5-10% of the time

- ◆ Traditional rules would not work today as young people are too impatient and would rather cast whenever there is a chance that the fish may suddenly disperse while they are waiting
- ◆ Choice of if to educate or legislate (the traditional rules) is easy. Have to legislate because fishers will “not obey the intelligent people like academics and public servants”
- ◆ Legalising the rules will cause more disputes if people take each other to court
- ◆ May find more retaliation by persons penalised through court; better to settle out of court
- ◆ Making traditional rules into law will cause confusion. Fishers will still disobey.
- ◆ Support for legalisation will come because people want more order in the fishery
- ◆ Rules can be used effectively even in aggressive fishing if people stop and think about them
- ◆ Rules are not yet in law but should be issued to fishers now like the safety regulations
- ◆ Breaking rules now results in cursing, fights and boat damage, then things quickly cool off.
- ◆ Drug addicts who often break seining rules also steal fish and equipment, but police and government are not told about these events. The fishers know who these people are.
- ◆ Drug addicts need to get quick cash causes few rules to be apply on the L’Anse. Similarly, addicts get away with stealing because people feel sorry for them and want to be lenient.
- ◆ New law must be in everybody’s interest: “it is we who make the law, it is we to keep the law”

Not everyone is in favour of legalisation, but most are. Those who are sceptical are mainly concerned that legal arrangements may cause more, rather than less, conflict. Unlike an ideal model, it is clear that the option of strengthening community-based management is not popular.

## **11 Outcomes and performance of co-management arrangements**

This case focused on investigating the beach seine fishery in relation to its traditional rules and the interactions with the longline fishery of Gouyave. At present there is no co-management, but the above need to be taken into account for it to be successful. There is the strong potential for co-management to be a major feature in the approach to legalising the rules of the beach seine fishery, and in having them implemented. The latter includes periodic evaluation and revision.

Gouyave, the fishing capital of Grenada, would seem to be an excellent candidate for a location in which fisheries management could be led by the community. Yet, although it has a rich history of fishing organisation formation, there has not been much success in sustaining these groups despite external assistance. The most successful organisations in Gouyave rely on a small cadre of professionals and businesspeople. Within the fishing community there is less motivation for the seine fishers to become organised than there is for the longliners. The latter could benefit from collectively bargaining with fish buyers and the government. The seiners’ primary collective interest would be in several arenas of conflict management.

The findings concerning the interaction between nets and boats in the bay, and the legalisation of the traditional rules, are consistent in showing that the fishers have no interest in, or capacity for, taking on the responsibility of managing the fishery without considerable support and direction from government. The fishers have concluded that there is no respect for rules formulated through community structures and processes. This lack of respect and the ineffectiveness of social sanctions is said to be strongest among the younger generation of fishers. This young generation is also prominent in the operation s of the longline fishery with which the fortunes of the beach seine fishery are intertwined.

The lack of confidence in the community to solve its problems has led to dependence on government to provide solutions. However, at the same time, the fisheries authority does not have the capacity or interest to engage in conflict management. Consequently, the most probable option is to design a legal structure and process that is responsive to the particular needs of the fishery and less cumbersome than the normal judicial process. The fishers have undertaken exercises in preparation for this and are intent on retaining a level of interest and control that is consistent with co-management. The major remaining challenge is to convince the top political decision-makers that this approach to legalisation is likely to be successful.

## **12 Conditions for successful co-management**

The purpose of this project was to suggest mechanisms for the implementation of integrated pro-poor natural resource (and pollution prevention) management in coastal zones that could be developed and promoted through understanding the requirements for establishing successful co-management institutions for coastal resources under various conditions in the Caribbean. In this chapter we present conclusions based on the research framework that guided the study.

### **12.1 Type of co-management**

The research framework summarises the main types of co-management as consultative, collaborative and delegated. The initiative to legalise the traditional rules of the Grenada beach seine fishery and incorporate them in to the fisheries management process is just a proposal. This case study continued the research of the former Chief Fisheries Officer who was keen to promote this consultative management that has the potential of becoming collaborative or delegated. Delegated co-management seemed feasible at the start of the study since use of the rules has been cited as an example of territorial property rights in fisheries and community-based management. Yet, the fishers in Gouyave are not in favour of strengthening community institutions and acquiring power. This may not reflect attitudes across the island, but the probability is high. Similarly there is little interest in Gouyave in collaborative management. The inability to sustain effective fisherfolk organisations partly explains the preference for wanting government to exercise most of the management responsibility, but guided by select fishers.

### **12.2 Phase of co-management**

This case illustrates the very first stages of pre-implementation in which the co-management arrangements, the stakeholders, and their patterns of interaction are flexible and dynamic. It is unlikely that this case will advance beyond this phase in the near future, and it is possible that it will remain largely unmanaged, or become command and control, unless there is more interest in establishing co-management than was demonstrated during the case study period.

### **12.3 Conditions for co-management**

This section is based on findings that have been presented above and on the proceedings of a special workshop of stakeholders in this case study where they were asked to discuss and evaluate a list of variables presented to them by the researchers based on previous research on co-management. In this process the workshop participants had the opportunity to add or delete variables that they found to be critical or irrelevant respectively. The Grenada workshop on the critical conditions for successful co-management included researchers, Fisheries Division, fishing cooperatives, Cooperatives Department and a private fisheries consultant. The proceedings of the meeting are summarised in Table 12.1.

Table 12.1 Stakeholders' perceptions of critical conditions for success in Grenada

0 = absent; 1 = present but weak; 2 = present to a fair extent; 3 = strong feature of the fishery		
CO-MANAGEMENT CONDITION	REMARKS	#
1. Clearly defined boundaries: of the resource; of the management area; of the "community"	<ul style="list-style-type: none"> <li>Know lobster fishing areas only generally, not clearly bounded</li> <li>Know who are lobster fishers and where from</li> <li>Management areas generally known but not clear</li> <li>Fishers not constrained by boundaries but Sauteurs fishers mingle with Carriacou but go little farther</li> <li>Grenada and Carriacou divers go into SVG waters</li> <li>Fishers go as far as fuel will take them</li> <li>SVG-Grenada boundary not really a barrier</li> <li>National boundaries functionally unclear, but are declared under UNCLOS without delimitation</li> <li>Seasonal boundaries to fishing pelagics</li> <li>People switch fisheries so few technical boundaries</li> </ul>	1
2. Membership is clearly defined as to who really has a stake in the fishery (is a stakeholder)	<ul style="list-style-type: none"> <li>Fishers interchange amongst fisheries but easy to tell who is in which fishery</li> <li>All stakeholders well known</li> </ul>	3
3. There is shared recognition of a resource use problem that needs to be addressed	<ul style="list-style-type: none"> <li>Fishers recognise problems and tell FD e.g. marketing of tunas</li> <li>Seldom sure about government action in response</li> <li>Fishers usually identify external problems rather than problems or causes amongst themselves</li> <li>Fishers seldom find resource problems that they cause</li> <li>Fishers look for problems for government to solve</li> <li>Extent of problem recognition not spread evenly across stakeholders</li> <li>Different perspectives on problems recognised</li> <li>Root causes of problems harder to agree on</li> </ul>	2
4. Clear objectives for management can be defined based on the problems and interests	<ul style="list-style-type: none"> <li>FD management objectives are clear in draft Fisheries Management Plan</li> <li>Mostly known by fishery managers e.g. reason for sea egg size limit to protect spawners that fishers objected to at first then admitted error of objecting</li> </ul>	3
5. Good fit between the scale of the resource and feasible management arrangements	<ul style="list-style-type: none"> <li>Fishers think that government does not have enough information and that resources are unmanageable since nature not controllable</li> <li>Without clear boundaries it is hard to judge scales</li> </ul>	1/2
6. Management approaches and measures are flexible to suit changing circumstances	<ul style="list-style-type: none"> <li>Fishers think management measures are rigid in practice even if flexible in theory</li> <li>Fishers do not know enough about management measures to know which are flexible or not and why</li> <li>Fishers do not understand what may cause some measures to change</li> <li>Flexibility varies but insufficient information to inform changes</li> </ul>	2
7. Cooperation exists, and is adequate, at the resource user	<ul style="list-style-type: none"> <li>Fisherfolk usually cooperate by participating in consultations</li> </ul>	2

CO-MANAGEMENT CONDITION	REMARKS	#
level and in government etc.	<ul style="list-style-type: none"> <li>• Need more cooperation between Cooperatives and Fisheries Divisions</li> <li>• Fair relations between Cooperatives and fishers</li> </ul>	
8. Leadership exists, and is adequate, at the resource user level and in government etc	<ul style="list-style-type: none"> <li>• FD designates extension officers to lead in areas but they are not often seen</li> <li>• Leadership weak among fishers as seen in Sauteurs case</li> <li>• Leadership demonstrated everywhere for Fisherman's Birthday celebrations but not sustained into other initiatives</li> <li>• Formation of coops is demonstration of leadership</li> <li>• Single leaders may arise but no succession plan</li> </ul>	2
9. Group cohesion where fishers, managers and others can act collectively within their groups	<ul style="list-style-type: none"> <li>• Cohesion weak among fishers – quarrel over money matters especially</li> <li>• Fishers do not understand their role in a group as expect others to take action. Freeriders.</li> <li>• Expect too much of leaders without their support</li> </ul>	1
10. There are mechanisms for managing conflicts within and among stakeholder groups	<ul style="list-style-type: none"> <li>• People are insular but no conflicts between geographic areas</li> <li>• Managed due to culture of reconciliation</li> <li>• Government agencies conflict over areas of jurisdiction e.g. beaches and planned beach mining by Public Works on Levera turtle nesting beach</li> <li>• Any mechanisms are informal</li> </ul>	1
11. Communication amongst the stakeholders is effective, and there is adequate networking	<ul style="list-style-type: none"> <li>• No big communication s problem</li> <li>• Fishers tell FD about problems regularly, but feedback on action taken is less regular</li> <li>• Getting better through more workshops</li> </ul>	2
12. Coordination between government, local community and other stakeholders is effective	<ul style="list-style-type: none"> <li>• Coordination to mobilise fishers to workshops good</li> <li>• Fair coordination among government agencies and some NGOs</li> <li>• Lower between FD and government?</li> </ul>	2
13. Trust and mutual respect characterise the relationships among the key stakeholders	<ul style="list-style-type: none"> <li>• Little respect among fishers for themselves e.g. those working against formation of the new Gouyave cooperative</li> <li>• Government agencies have professional respect for each other; and fair between FD and government</li> <li>• Fisheries Officers have respect for fishers due to the demands of their occupation</li> <li>• Not sure of respect for fisheries officers</li> </ul>	2
14. Organisational capacity exists for all stakeholders to participate effectively in management	<ul style="list-style-type: none"> <li>• FD has capacity to organise for management but not the logistics to execute</li> <li>• Fishers may not have enough information to participate in management</li> <li>• Dual roles for FD regarding enforcement and training is a conflict due to small capacity</li> </ul>	1
15. Adequate financial, and hence physical, resources are available for management tasks	<ul style="list-style-type: none"> <li>• Government and fishing industry may lack resources to manage physically</li> <li>• Funding may be scarce or inaccessible</li> </ul>	1
16. External agents provide support for management but do not encourage dependency	<ul style="list-style-type: none"> <li>• In MPA by French funders there was requirement of sustainability</li> <li>• Support from ESDU, but not many other agencies</li> </ul>	2

CO-MANAGEMENT CONDITION	REMARKS	#
encourage dependency	<ul style="list-style-type: none"> <li>Japan is major donor</li> </ul>	
17. Benefits of participation must exceed costs from the levels of individuals up to larger groups	<ul style="list-style-type: none"> <li>Neither costs nor benefits are assessed / measured</li> <li>Costs are perceived to be high, but benefits are a mystery (unidentified and unmeasured)</li> <li>Clearest benefits where there is a crisis</li> </ul>	1
18. Individuals, groups affected by management arrangements are included in decision-making	<ul style="list-style-type: none"> <li>Previous legislation (colonial) was top-down</li> <li>Now more consultation on management decisions</li> <li>E.g. MPA regulations consultations resulted in compromises such as expanding Molinere MPA to beyond reef to include Beausejour seining beaches and yacht anchoring areas to reduce conflict</li> <li>Stakeholders did not actually make decision but helped</li> <li>Also industry had strong say on duty concessions</li> </ul>	2
19. Management rules are enforceable by resource users and the management authority	<ul style="list-style-type: none"> <li>High compliance in some areas but in others the fishers frustrate rules being enforceable</li> <li>Collusions to break the law where fishers inform others of enforcement</li> <li>Fishers also inform on others if they have financial gain to make from it. Competition effect.</li> </ul>	2
20. Legislation gives users some meaningful level of ownership or control over resource use	<ul style="list-style-type: none"> <li>Open access fisheries; some traditional seine rules</li> <li>Licensing system not management oriented yet</li> </ul>	0
21. Legislation gives users authority to make management decisions, perhaps shared	<ul style="list-style-type: none"> <li>Provision for a FAC but not functional for some time</li> </ul>	2
22. Decentralisation and delegation of authority is part of the policy of resource management	<ul style="list-style-type: none"> <li>Not part of policy or practice</li> <li>Groups in industry not strong enough to take on responsibility</li> </ul>	0
23. Co-management has a good social and cultural fit to the circumstances of the situation	<ul style="list-style-type: none"> <li>May not be a good fit as people expect government to work for them and do much once asked</li> <li>People expect government to solve most problems</li> <li>Attempts to work inter-agency at government level</li> <li>Poorer relation between government and fishers</li> <li>Will have to fit better in the future since government resources are scarce with limited capacity and goals cannot be reached without user support</li> <li>Providing more information from FD to industry would help e.g. promoting the Code of Conduct</li> </ul>	1

### 12.3.1 Boundaries

The boundaries of individual haul sites, and clusters of them, are well defined and documented. They are operational aspects of the beach seine territorial use system. These boundaries have been used for the traditional rules and are adequate for introducing co-management.

### 12.3.2 Membership and stakeholders

The beach seine fishers around Gouyave are fairly well defined in terms of net captains and regular sailormen. However, there is a very dynamic pool of helpers and vendors that make

defining overall participation in the fishery difficult. At times, almost the entire town can become engaged in some aspect of the fishery, its support or market. There are no formal or informal barriers to fishery entry or exit. Stakeholders in this case include the Fisheries Division, net owners and individual fishers (both seine and longline). The St. John's Fishermen's Association, Gouyave Improvement Committee, Cooperatives Division and an emergent fishing cooperative are interested parties. The former should be a stakeholder, but its dormancy precludes this in any meaningful way.

### **12.3.3 Resource use problem**

For the beach seine fishery, resource use has not been identified as a problem apart from the need to manage conflicts. The number of nets used in the Gouyave cluster decreased following the impact of hurricane Lenny. Recent low catches are of concern for livelihoods, but not the health of the resource. Fluctuations in abundance and availability are considered normal. Of greater concern may be the scarcity of bait available for supplying the longline fishery. This fishery is highly dependent on seining, and catch and effort in this fishery are increasing. However, bait shortage is not yet a major concern, although it could be on a local scale if the number of active nets continues to decrease. The absence of a specific resource problem weakens the motivation for establishing co-management.

### **12.3.4 Management objectives**

There is a recent draft fisheries management plan, but only the author, a former Chief Fisheries Officer, is particularly familiar with its contents or is able to champion its approval by the policy-makers. The operational management objectives that currently apply to the beach seine and longline fisheries are not very clear. Formal approval of the draft plan is not advancing at the policy level. Management objectives need to become clear and common for stakeholders to determine the most appropriate approach to management. This clarity is needed particularly at the policy level.

### **12.3.5 Scale of management**

The beach seine fishery can be managed at the community level although small coastal pelagic fish move along the coast, crossing community boundaries. Gouyave was just the location of enquiry in this case. Ultimately there should be national management. Legalised traditional rules would apply nationally, perhaps with provision for some local exceptions. There could be nested scales of co-management in this fishery.

### **12.3.6 Management adaptation**

There is little active management of the beach seine fishery. Management of the longline tuna fishery will be dictated mainly by external events and international or regional management measures. The beach seine traditional rules have been adapted in several locations to fit the fishing practices. Flexibility to evolve must be built into the process of legalisation. Regarding the fisheries regulations, as a result of interventions by the Fisheries Division there have been several amendments since their original passage. This suggests willingness to make regulatory changes, but more responsive mechanisms for management adaptation will be required for co-management based on traditional rules to be efficient.

### **12.3.7 Cooperation**

The Fisheries Division assessed cooperation as satisfactory based on the willingness of fisherfolk to participate in the events it organises. Participation in the meetings to document the traditional rules, coastal issues and their solutions was good. However, the main issue raised for

this fishery was the impact of low cooperation among fishers such as rule-breaking, bait being withheld from longliners and the failure of fisher organisations in Gouyave. More cooperation is needed between the Fisheries Division and Cooperatives Division, but no mechanism for this is available. Given the recent increased interest in promoting fishing cooperatives, and the apparent demand from fishers for this type of organisation, this deficiency could become a major obstacle to the success of co-management.

### **12.3.8 Leadership**

Gouyave has produced several leaders of local and national fishing groups who appear to be individually capable, but still unable to maintain viability of the organisations. Ordinary members of the groups, and even those on the executives, are reluctant to challenge the leaders and replace them or the structures that they head. Several business people, and others who have leadership skills, have investments in the fishing industry based at Gouyave and may be called upon for assistance. The same people are key members of several Gouyave organisations. This may cause problems, including conflict of interest, but it may also facilitate very productive networking. Local leadership will be important for co-management success in this fishery.

### **12.3.9 Collective action**

The dormant fishing association, improvement committee and emergent fishing cooperative are the most relevant vehicles of collective action in this case. There is no body that currently represents the beach seine fishery, although the association had several members and it is possible that the new cooperative could become relevant. Compared to the longline fishery, except for conflict management, there are presently fewer income-related reasons for the seiners to act collectively except in fishing operations. The challenge would be for seiners to sustain collective action in the co-management context where they face fewer crises to motivate such action than the longliners.

### **12.3.10 Conflict management**

Conflict management is the root of the reason for proposing co-management of this fishery. If the traditional rules are broken and are lost from customary practice, then conflicts may reduce production. In addition to the seine rules there are additional conflicts such as in the mooring basin. Mechanisms for resolving conflicts at the community level are weak. As a consequence, conflicts resurface or remain unresolved. The tribunal recommended by the fishers is a reflection of their loss of confidence in reaching negotiated agreements among themselves. If co-management is to succeed, more attention must be paid to conflict management. Although having the tribunal may relocate the focal point for conflict management away from the community, the latter still has to invest in conflict management skills in order to use the tribunal effectively as a last resort rather than a first choice in settling fishery matters.

### **12.3.11 Effective communication**

The Grenada fisheries authority has invested heavily in both formal and informal communication that has proven effective. The system of extension officers allocated to particular districts has resulted in close relationships between them and the fishers in these locations. Fishers appreciate this relationship and communicate with officers regularly. However, several fishers pointed out that this informal camaraderie is insufficient to facilitate formal inclusion of their issues and answers into the fisheries decision-making system. They want to have more formal meetings, and especially to receive regular feedback from Fisheries Division. Communication between the Fisheries and Cooperative Divisions is negligible and needs to be improved if cooperatives are to have roles in fisheries management.



### **12.3.12 Coordination**

Arising from communication, there is reasonable coordination at the technical level between NGOs, government and the fishing industry. Post-hurricane recovery, regular workshops and other events are examples. However there is less coordination between the technical and policy levels of government on fisheries matters. The fisheries authority's uncertainty about policy decisions and support is likely to retard its advance towards co-management since the latter is much more characterised by policy and politics than conventional management.

### **12.3.13 Trust and respect**

The only area in which trust and respect was said to be in short supply was among fishers themselves in terms of conflict and disunity that appear to hinder development and collective action. The dynamics of leadership in the various fishing bodies that arose and faded in Gouyave is an example. It is not likely, however, that levels of trust and respect are so low in the fishing industry as to seriously constrain the chances of fisheries co-management succeeding.

### **12.3.14 Organisational capacity**

Capacity building is an important element in co-management. Where the poor have access to resources that create new and more relevant capabilities among them, they are usually better equipped to extricate themselves from poverty and to sustain livelihoods. Capacity building may include, but is not limited to, training and upgrading of skills, and empowerment. NGOs were very actively involved in trying to create capacity in fishing organisations up to a few years ago. These efforts have now subsided and organisational capacity is still very limited. Several key organisations have failed. The Fisheries Division is limited in its capacity. The two main NGOs that have assisted fishing groups claim that their limited capacity constrains their operations. Means of strengthening the organisational capacities of all stakeholders must be devised.

### **12.3.15 Financial resources**

Expenditure on fisheries management is a matter that concerns policy-makers. It will be important to ensure that the tribunal or whatever structure is put in place is both affordable and efficient. The Fisheries Division does not have significant financial resources to support co-management.

### **12.3.16 External agents**

Grenada has received external funding for physical infrastructure that improves the working conditions and livelihoods of fisherfolk. These improvements are likely to continue. Previously, NGOs received external funds that were passed on to fishing industry initiatives. None of the external interventions has encouraged dependency, and further assistance specifically for co-management would be beneficial. The area of conflict management may be an appealing one for assistance.

### **12.3.17 Net benefits**

It is too early in pre-implementation to determine potential benefits. However, the absence of clear benefits to the fishers is likely to be a serious constraint on them adopting co-management approaches to resolving problems that have been tolerated for generations.

### **12.3.18 Representation in decision-making**

The fisheries authority has not established a system in which fishers are locally or nationally represented formally in a decision-making forum. Fisheries officers have good relationships with

fishers and will seek their advice through consultation, but this stops short of decision-making. The several unsuccessful attempts to establish a Fisheries Advisory Committee demonstrate fundamental difficulties in forming and maintaining a representative decision-making body. This needs to be addressed for co-management to be successful and, given the prevalence of parish level bodies, perhaps success could first be achieved at this smaller scale of administration.

### **12.3.19 Enforcement**

Since the seine rules are only informal at present, there is no official enforcement of them. Social sanctions and community-level enforcement also do not apply. In the absence of voluntary compliance, the rule system is likely to disintegrate. Stakeholders were initially mixed in their recommendations on who should enforce any new co-management arrangement. In the end enforcement by the government was considered most appropriate, but fishers wished to avoid the normal judicial system. Even if the tribunal is established, it will be vital to ensure adequate enforcement once the rules are incorporated into fisheries regulations. Given the difficulty in enforcing most of the present regulations this will be a challenging task.

### **12.3.20 Property rights**

In the beach seine fishery there is a well-developed customary system of territorial use rights. Some of the fishing locations are being altered by sea defences and erosion, but most are likely to remain. Maintaining this property rights system is at the core of the need for co-management and is a major condition for success.

### **12.3.21 Sharing decision-making**

There is legal provision for a Fisheries Advisory Committee, but several attempts to form and maintain one have not been successful. There is no other process or institution except the meetings of the various cooperatives and associations. At Gouyave the fishing groups are weak as decision-making bodies. The Gouyave Improvement Committee is best placed to provide a local alternative, but so far wishes to limit its intervention to Fisherman's Birthday celebrations. The Fisheries Division and fishers accept top-down management with consultation as the norm. The proposed tribunal is very similar in nature and should therefore be acceptable

### **12.3.22 Decentralisation and delegation**

In the fisheries arena there is no evidence that much decentralisation and delegation of power to the fisheries authority or fishing industry is likely to occur. The Fisheries Division is closely wed to the administration of the ministry in decision-making. The consultations conducted by the Fisheries Division with the industry do not exhibit any move towards delegation and there are no structures set up to accept the consequent responsibilities. The fishers' preference for the tribunal demonstrates that they do not seek to have power delegated to them or take on responsibility for decentralised decisions.

### **12.3.23 Social and cultural fit**

Grenada has experienced more political changes than several neighbouring countries. This includes a socialist phase. This period and colonialism were characterised by governments being very much in charge, although the formation of grassroots organisations was a feature of the socialist era. The expectation remains that government has the bulk of responsibility to make decisions and look after the welfare of the people. Co-management beyond consultation is not a good fit at present in the fishing industry, but there is scope for much improvement in consultative co-management that would not be inconsistent with the socio-cultural environment.

## **12.4 Priority action**

The Grenada workshop participants emphasised the need to build more cooperation amongst all stakeholders. One step could be to place more emphasis on using the local ecological knowledge of fishers in management. In tandem with this is strengthening the capacity of fishery organisations and NGOs to support co-management. A final area for action research was the question of how property rights could or should be developed, and in which fisheries would this be appropriate. Action needed is to demonstrate co-management in order to achieve a common understanding of what it is, especially if it is to advance beyond consultation.

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## 14 Appendices

### 14.1 Appendix 1: Project case study summaries

#### 14.1.1 Barbados

**Sea egg fishery** — A food fishery for white sea urchins (*Tripneustes ventricosus* locally called “sea eggs”) has declined on several occasions. After several closures to facilitate recovery, the government recently initiated co-management. Stakeholder groups include the Fisheries Division and Coastal Zone Management Unit (CZMU) of the government; and the Barbados National Union of Fisherfolk Organisations (BARNUFO).

**Fisheries Advisory Committee** — Under its 1993 Fisheries Act the government of Barbados activated a multi-stakeholder Fisheries Advisory Committee in 1995. The FAC has struggled to define and meet its co-management mandate. Stakeholder groups include the Fisheries Division of the government; individual and organisational members of the FAC.

#### 14.1.2 Belize

**Laughing Bird Caye National Park and Gladden Spit Marine Reserve MPAs** — These MPAs in Belize’s barrier reef are co-managed by an NGO under co-management agreements with the Forestry and Fisheries Departments. Government stakeholders include the Fisheries and Forestry Departments, Coastal Zone Management Authority and Institute. Friends of

Nature, Belize Tourism Industry Association and Belize Fisherman's Cooperative Association are some of the NGOs.

**Fisheries Advisory Board** — Belize has a Fisheries Advisory Board (FAB) that has been a powerful force in fisheries for over 30 years. However, it has not been well documented as an example of co-management. Stakeholder groups include government Fisheries and Cooperatives Departments, Belize Fisherman's Cooperative Association, members of the FAB.

### **14.1.3 Grenada**

**Lobster fishery (focus on Sauteurs location)** — At the rural town of Sauteurs government recently started a co-management project to encourage use of more responsible fishing gear for lobster harvest, and the fishing co-operative in the area is presently being revived. Stakeholder groups include government Fisheries and Cooperatives Divisions, the Agency for Rural Transformation, St. Patrick's Fishermen's Co-op.

**Seine net fishery (focus on Gouyave location)** — The seine net fishery in Grenada is a case of an attempt by government to systematically document traditional fishing rules and customs in order to incorporate them into fisheries management plans and legislation. Stakeholder groups include the Fisheries Division of government, Agency for Rural Transformation, Grenada Community Development Agency, Gouyave Improvement Committee and St. John's Fishermen's Association.