

*Reprint files*

WORKSHOP IN POLITICAL THEORY  
AND POLICY ANALYSIS  
513 NORTH PARK  
INDIANA UNIVERSITY  
BLOOMINGTON, IN 47408-3895 U.S.A.

*10-26-95*

## **CO-MANAGEMENT IN CARIBBEAN FISHERIES? - THE CASE OF ST. LUCIA**

By Håkan T. Sandersen

Nordland Research Institute  
8002 Bodø, Norway  
Phone: +47-755-17608  
Fax: +47-755-17234  
E-mail: [Haakan.Sandersen@hibo.no](mailto:Haakan.Sandersen@hibo.no)

(1995)

Paper presented at the Fifth Common Property Conference "Reinventing the Commons", organized by The International Association for the Study of Common Property (IASCP), 24-28 May 1995 in Bodø, Norway.

Draft! Comments are welcome!

## **Abstract:**

One of the most interesting and promising solutions to management problems concerning renewable natural resources and their institutional settings is the co-management model. One of the issues rarely and not adequately addressed in the literature of co-management is the question of organization. Organizations are vital to the implementation of co-management. However, in developing countries, there is often a poorly developed organizational infrastructure both on the national and local levels, and between the levels. To establish new organizations often places heavy demands on resources and is difficult in these countries. Thus, one of the basic questions regarding the establishment of a co-management regime is to what extent there are organizational structures present that can facilitate co-management. The question addressed here is: To what extent is the present local institutional landscape in St. Lucia suitable for the introduction of co-management, and in what type of fishery? We focus on three types of organizations; fishery co-operatives, NGO's, and local government, representing three fundamentally different types of institutional design. We find that neither of these organizations are presently capable of taking co-management responsibility in the St. Lucian fisheries, and that the best way to move towards increased user-group participation is to establish a national fishermen's union.

**Keywords:** Small-scale fisheries, co-management, user-group involvement, institutional design, St. Lucia, Caribbean

## **1. INTRODUCTION**

Fisheries are clearly among the most complex of human activities. In most fishery nations, resource managers are coming under increasing fire for failing to keep the resource on an ecologically and socio-economically sustainable level. These problems are even more serious when they take place in Third World countries, where food production is vital, and where other options for food, employment and income are scarce. The Caribbean is no exception to this, and the region has problems with degradation of the fish resource and a relatively poor record of resource management initiatives (Berleant-Schiller 1982, Sadovy 1989, Chakalall 1991, Goodwin et. al. 1985, Renard 1991:4).

As most of the fishery management of the last century has been based on a technocratic and centralistic "top-down" approach (Charles 1992:207), based on calculating maximum sustainable yield of a few key fish species (Pomeroy & Williams 1994:3), it is not surprising that some managers and researchers have started to look in the opposite direction for better solutions to the management problems. The new international trend, both on the research agenda and in practice, is generally going in the direction of more user-group involvement, and increased local level influence on the development, implementation and enforcement of management schemes. The reasons for this emphasis on local participation are several, but concepts as equity, democracy, legitimacy, efficiency and compliance are common catchwords when this approach is justified.

The co-management model is one of the most interesting and promising solutions to management problems concerning renewable natural resources and their institutional settings, and especially those qualified as "common property" (Jentoft 1989, Pinkerton 1989). Over the last years, both the term and practice of co-

management have evolved in several fishery legislations throughout the world, and in both developing and developed nations (Charles 1992:208). A management system based on co-management principles is designed with the deliberate intent of actively involving user-groups in regulatory decision-making. The point is to develop a dynamic partnership using the capacities and interests of both the government and the resource-users (Pomeroy & Williams 1994:6). This means some degree of delegation of power and responsibility to fishermen's organizations or community institutions. At a practical level, co-management can also be justified as a solution to the lack of knowledge, and to structural and financial constraints, and can therefore be regarded as one appropriate way to improve the serious management problems in many Third World small-scale fisheries<sup>1</sup>.

Collaboration between the government and the user-groups has to be organized. The manner in which co-management regimes are organized may vary according to context-dependent institutional requirements. However, we know from organizational theory that the way we organize will structure the outcome from an organization. Thus, co-management is not only a matter of decentralization, delegation and local autonomy, but also a matter of organizational design. The options when introducing co-management are either to strengthen the existing organizations, extending or reorganizing them to cover new functions, or to create new organizations. In the Third World, where there is often a lack of suitable local organizations, the wise point of departure will usually be to build on existing institutions as much as possible. But this approach is not without problems. In the Caribbean, there is currently a limited capacity among existing community organizations to perform the varied functions that co-management require. According to Renard (1991:6) this is mainly because of a tradition of non-participation, which stems from a predominance of a centralized approach to development planning, and from the dependence on externally generated actions. Most of the current management efforts in the Caribbean are directed primarily to the simplification and reduction of resource management regimes in favour of either private management of private property or state management of state property (Renard 1991:5). As a consequence, local practice, knowledge, experience and managements skills have often been ignored and not allowed to develop and evolve. In such regimes, the resource-users are usually treated as a target group more than a partner, and there are numerous examples where coercive methods rather than interactive dialogue have been employed in the region (Geoghegan et al. 1991:1, Chakalall 1991:1). The general tendency is to reduce the authority and role of local communities in the management of the coastal resources, through the establishment of legislation and organizational set ups that provide only a limited role for the fishermen to participate in the management process. This practice often originates from the colonial experience of each country. Thus, in many of these countries, a genuine co-management strategy implies a radical change in the government's policy and attitude towards the resource users.

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<sup>1</sup> Small-scale coastal fisheries will in the following be understood as fishing where the units are beachlandings, the investment level is relatively low, and where the use of traditional gear is predominant.

But interestingly, some of the islands in the eastern Caribbean have actually taken a step in the direction of co-management. A harmonized fishery legislation has been established that opens the way for increased user-group involvement and co-management. Several projects and efforts in the region have been implemented to improve the management by using co-management or related strategies in the fisheries (Smith & Renard 1994, Renard 1994), and in other sectors (Geoghegan & Barzetti 1994). St. Lucia is one of the most interesting Caribbean countries regarding co-management. The Government agencies in St. Lucia, together with local and regional institutions, have set up several research projects that involve co-management, participatory planning and community based management (George 1994, Geoghegan & Barzetti 1994, Smith & Renard 1994, Smith & Berkes 1991, Smith & Berkes 1993, Renard 1994). This includes resources such as fish, reefs, sea-urchin, sea moss, mangrove, rain forest, etc. Perhaps for the first time in the Eastern Caribbean, it has also been demonstrated that communities can organize the management of common property resources in a way that secures sustainable harvest (Renard 1994:11).

This paper address some problems and dilemmas connected to the use of existing organisations or institutions for user-group involvement and co-management purposes. The essential question that will be addressed here is: To what extent is the present local institutional landscape in St. Lucia suitable for the introduction of co-management, and in what type of fishery? We focus on three types of organizations, that represent three fundamentally different types of institutional design. Firstly, we examine the possibilities to vest management responsibility in the existing fishery co-operatives on the island. Secondly, we will try to assess to what extent NGOs can play a role in co-management of the fisheries. Thirdly, we will investigate the possibilities of using the local government system as a co-manager in the fisheries sector.

## **2. CO-MANAGEMENT: POTENTIALS AND CONSTRAINTS**

The central principle of co-management is to provide an arena for collaboration between user-groups and various government agencies, and to formally establish a division of labour between the parties in the design, implementation and enforcement of management functions (Jentoft & Sandersen 1994:4). A co-management system can be viewed as a median or mix between centralized and decentralized fisheries management. A central point is that authority to perform various management functions has to be vested with the resource users. Thus, co-management regimes are located somewhere on the continuum between state management and self-management (Jentoft & McCay 1995:229, Pinkerton 1994:323). Co-management may be situated at the communal level, but is not synonymous with communal self-management based on traditional marine tenure systems. Extensive communal self-management is only one of the extreme forms co-management can take. Co-management may seek both to reinstate or strengthen traditional management forms or to design new or hybrid forms. Thus, co-management regimes are often to a large extent based on local institutions or

organizations, but not necessarily the traditional ones in an original form. However, in terms of legitimacy, economical constraints and functionality, there is always reason to believe that it would be beneficial to build on existing institutions and organizational structures whenever it is possible and practical.

The managerial benefits of co-management are expected to be several: 1) There is greater participation by user groups in decision making, which increases democracy and enriches the regulatory process by providing a broader base of information and knowledge. Popular ecological knowledge can be made relevant, and the users, because of their continual and frequent presence, can make valuable contributions to monitoring and surveillance of the resource (White et al. 1994:16). Increased participation and control will often lead to improved social cohesion and community development (Pomeroy & Williams 1994:iv). 2) Increased rationality in the regulatory process is achieved as participation in the negotiating of new rule structures leads to more adequate and legitimate regulations, especially when traditional management systems form the base for the new regime. 3) Participatory democracy has a positive effect on legitimacy, as it alleviates the centralistic bias of fisheries management. 4) Increased legitimacy leads to an enhanced adherence to rules and regulations by user groups, contributing to a more economically and proficient management regime with increased efficiency and efficacy (Jentoft & Mikalsen 1994:288).

However, as stated by Pomeroy and Williams (1994:1), co-management is not a universal panacea for fisheries management, but more of a broad principle that can be implemented in several ways, and that may be appropriate for certain areas and situations. There is obviously a lot more to learn about the conditions leading to successful co-management. One of the issues rarely, and not adequately addressed in the literature of co-management is the question of organization (Sagdahl 1992). Organizations are vital to the implementation of co-management, and the question of organization must be addressed as an integral part of any development process in fisheries.

However, in developing countries, there is often a poorly developed organizational infrastructure both on the national and local levels, and between the levels. User-groups are often poorly organized, and their interests, problems and needs are therefore not systematically formulated and taken into account when development and management plans are formulated (Jentoft & Sandersen 1994:3). Thus, the government agencies also often lack the organizational and institutional infrastructure necessary to effectively reach the user-group. A co-management regime requires at least two organizations - a government agency and a user-group organization - and a structured interface between them. In Third world countries these three elements are often inadequate or lacking. Thus, one of the basic questions regarding the establishment of a co-management regime is to what extent there are organizational structures present that can facilitate co-management.

Several arguments go in favour of using existing organizations. One is the "free-rider" problem. The dilemma connected to collective inaction, as elaborated by

Mancur Olson (1971), is often present also in fisheries, and one of the principal problem regularly faced by a user-group is how to organize themselves. A critical requirement both for organization and for successful co-management seems to be the extent to which fishermen will voluntarily cooperate to advance their collective interest. If the fishermen are not organized will they not be equipped to achieve management responsibility and have a real impact on the Policy of the Government. In existing organizations the problem of organization is already solved. Another argument is the administrative and economic cost linked to establishing a new organization. People have to be selected and trained, etc. It is also beneficial in terms of legitimacy and acceptance to built on organizations that are well integrated in, and isomorphic with, the existing broader institutional structure (Meyer & Rowan 1991:60). According to Jentoft & McCay (1995:236), there is a general lesson that institutional changes in fisheries management usually results in only minor adjustments of old structures, rather than major changes or total reorganization.

Ecological features and constraints need to be addressed together with the question of organization. According to Wilson et al. (1994:292) it is not desirable to separate the biological and socio-economic aspects of fisheries management, because the complex and chaotic nature of the fisheries can best be dealt with in a local and integrated management system, where the management is based on the relatively stable parameters of fisheries systems, and not on costly technocratic and numerical analysis. However, the fishery or the fish resource may have features that are best handled by centralized management. To decentralize management responsibility will in such situations add new problems without solving the old ones. For some problems the community-level will be too small to offer proper solutions in a larger ecosystem. In some cases, strict regulations from above may be the most proper way to manage the fisheries. Thus, an important question to address regarding ecological features is the geographical scope of the co-management regime.

User-group involvement and co-management on the community level may be beneficial as this will improve the extent of direct participation and local control. This is important as regulatory practices often have broad social implications. However, there seems to be a trade off between the size of the organization and the possibilities for direct participation (Jentoft & McCay 1995:234). Larger organizations gives more power, but less direct user-group participation. Smaller organizations gives less power, and more direct individual influence. In addition, the larger, and more heterogeneous organizations usually lead to more internal conflicts than smaller ones. Thus, also the question of representativity is of vital importance, and has to be addressed accordingly when organization is in focus. In a genuine democratic process all the resource-users have a say in the decision-making. It is obvious that in practice it is difficult to involve all parties and stakeholders in the process, and some have to be excluded to make the body functional. The question: Who is represented, and in which manner? is also a difficult question in view of the fact that fishers are usually not a homogeneous group, and differ according to their world views, interests, where they come from, where they fish, which species they harvest, which technology they employ etc. (Jentoft & McCay 1995:237). The

legitimacy of a co-management regime will often depend on to what extent central user-groups are represented. But, as Jentoft (1994:5) point out, can the democratic principle that all affected interests should have a say in the decision-making process, in practice simply be to demanding. It will also be of importance whether the representatives are elected by the fishermen or appointed by the Government?

To determine what kind and how much management authority that should be allocated to which level is basically a political decision, as the ultimate decision is held by the government (Pomeroy & Williams 1994:7,10). But quite often the fisheries administrators are reluctant to give away parts of their authority. Systems embedded in laws, policies, procedures, interests etc. on various levels will often resist the changes necessary to implement a co-management regime. Thus, the actual design of the co-management regime will depend upon the form of government and the political will for decentralization. In the Caribbean context the geographical scope of the management system is a very interesting question. As most of the countries are very small micro-states, the concepts of local and national becomes blur.

### **3. PHYSICAL AND SOCIAL SETTING**

In this paper "The Caribbean" comprises the archipelago of islands that stretches from the Yucatán and Florida peninsulas southeast to Venezuela, with the greater Antilles in the north and the Lesser Antillean archipelago in the south and east. The insular Caribbean is one of the most intensively exploited regions in the Western hemisphere (Ragster & Geoghegan 1992:2). The region taken as a whole is not rich in living marine resources, and this is especially true of the eastern section. There are two principal factors responsible for this. First, very little of the Caribbean Sea includes shallow, continental shelves, which is regarded as the most productive type of fishing location. The continental shelf rarely extends 20 km. As Berleant-Schiller (1982:121) points out, shelves in more prosperous fishery regions are a part of youthful ecosystems in which the great fluctuations in species populations benefit fishers. Contrary to this, most Caribbean marine areas are parts of a mature ecosystem, characterized by stability and diversity. Tropical waters are also less productive than temperate waters because they lack the convection that encourages the growth of phytoplankton and brings nutrients up to the surface. Secondly, a substantial part of the area is not exposed to the vertical upwelling of deep water which is of crucial importance in the productivity of marine areas. With the exception of some minor upwellings due to the island mass effect, the waters of the eastern Caribbean resemble an oceanic desert (Underwood 1988:123). The exceptions are some large upwellings in the southern Caribbean from Trinidad to St. Lucia (Mitchell 1988:56). These factors cause a lack of vertical exchange mechanisms, and this inhibits the transport of deeper nutrient rich waters into the surface layer, where they could support primary production.

In contrast, the inshore marine resources in the Caribbean used to be plentiful only a few decades back, and the low productivity in the region is hardly to blame for the

present resource situation. Traditionally, marine fisheries have in the Caribbean basin been open-access fisheries, and especially those in the eastern Caribbean (Smith 1994:59). The fishing effort is usually not managed, but most countries have now introduced restrictions, particularly on area, season and mesh size. Lobster, conch, snapper, grouper, etc. that used to be easily caught close to shore, are now very scarce, and snapper and grouper are mainly caught in deeper waters offshore. Overfishing is more the rule than the exception, both recruitment overfishing and growth overfishing. But there is a notable absence of data on the actual exploitation of marine resources. However, according to Underwood (1988:133), the region's sustainable exploitable potential is between 1,3 and 2,6 million tons per year. Some contend that these waters are probably already yielding close to their maximum (Berleant-Schiller 1982:121). These natural conditions, coupled with limited primary production, suggest that the waters surrounding most of the small islands of the Caribbean could not support a commercial trawl fishery. However, the marine resources are of great value to the people of the region.

The Lesser Antilles, from St. Martin to Grenada, lie along the intersection of two of the earth's crustal plates. This has produced a chain of mountainous islands with a rugged scenic beauty and a fertile soil. The islands differ in many ways from larger islands and continental areas with regard to ecology, and share many similarities; despite that they also differ from one another with regard to size, topography, biological diversity, type of government, population, and so on. The natural and human environment interacts with and affects the inhabitants at a more rapid pace than on larger land areas. The small size and low diversity reduces the capacity to absorb natural or man-made environmental impacts (Ragster & Geoghegan 1992:4). The steep slopes, the proximity of the inland areas to the sea, and the lack of lowland buffer zones, make the coastal zone even more important. The limited land area tends to increase the conflict between different interests and uses.

Some observers have noted that not only the region, but also the societies within the region are fragmented and divided. Thus, these societies have been called "dual societies", characterized by their lack of common civic culture (Hettne 1992:16). To a degree, this can be explained by the fact that these societies are composed of descendants of peoples who were transplanted from one continent to another against their will. As "new world countries", they are modern countries, but without deep roots and a common past to refer to. To some extent this can explain the individualist character deeply rooted in most West Indians.

The physical isolation and wide range of human and natural diversity make cooperation and coordination between the islands difficult. The high diversity of the Caribbean archipelago creates limitations both for economic integration, political development and the establishment of a common identity. The OECS (Organization of Eastern Caribbean States) countries are very similar in size, resources, language, ethnicity and history, which explains their relative success in regional cooperation and integration. Most of the Caribbean states are microstates, and the small size of these islands gives both advantages and disadvantages. The economy will always be small and undiversified and constrained by the small populations and



limited resource base, causing a heavy dependence on the trade sector, on the export of one or two principal agricultural or mineral commodities, and on large food imports. This "openness" increases the dependence on foreign countries created by the colonial history, and makes them very vulnerable to fluctuations in world markets. On the other hand, small size can be taken as a positive challenge, as an opportunity to apply limited resources to significant changes.

St. Lucia is located among the Windward island grouping of the Lesser Antilles in the trade wind belt at Latitude 14 degrees North. Martinique lies 18 miles to the north on the other side of the St. Lucia Channel, while St. Vincent is about 25 miles to the south, across the St. Vincent Passage. The island, with an area of about 616 km<sup>2</sup>, is the second largest in the group and hosts about 160.000 inhabitants. It is recognized by its broken and rugged topography, numerous valleys and steep ravines, which stems from its recent volcanic origin (Renard 1994:1). In the coastal zone, mangrove, beach and cliff formations are common. The eastern, windward coast has no barrier reefs, and have few natural harbours and anchorages. The western, leeward side on the contrary has several natural harbours and anchoring sites. The highest mountain is the 950 meters high Mount Gimie, but St. Lucia is much more famous for the Pitons, two volcanic plugs on the west coast raising up to over 800 m, landmarks which have become the country's main trade mark. The climate is referred to as a tropical marine with an average temperature of about 27 degrees C and a relative humidity of about 75% (CEP 1991:3).

The topography explains the concentration of the country's population and many of its economic activities along a narrow coast strip. Castries, and its immediate environs, have a population of about 60 000. The small size of the island makes it a culturally homogeneous country, with small regional differences. However, as with the other Caribbean islands, the population is made up by several cultural, ethnical and racial elements, more or less mixed together to create a dynamic "calegidoscopic" culture. The present inhabitants are mainly the descendants of African slaves, with a sizeable population of descendents of indentured laborers from India, who arrived after the emancipation of the slaves. A tiny number of people of European descent has remained in the country. As on most West Indian islands, the population of St. Lucia is very young, with more than 50% under 15 years of age.

The French dominated most of the 150 years of struggle between Britain and France, and the British influence was not important until 1827 when English Commercial law was introduced. Up until 1832 the island was administered as a separate territorial unit, but was then included in a Windward Island Government. In 1960 a new constitution was enacted, and the island was once again governed as a separate unit. In 1967 the status changed to Associated State of Great Britain, before the country gained its independence on February 22, 1979. However, the country kept a monarchical constitution, and the Queen of England is represented by a Governor General, and British culture is still the main element in the government institutions, the civic life, the educational system and the financial and economic systems.

#### 4. THE FISHERIES OF ST. LUCIA

St. Lucia has a coastline of about 130 km, and a very limited extent of continental shelf, about 522 km<sup>2</sup> (FAO 1985). But favorable ocean currents make an abundant seasonal offshore pelagic fishery possible, and this fishery is currently the most important, and increasingly so. Pelagics are thought to be underfished, and have a substantial potential for increased harvests. The inshore demersal fishery is in general severely overfished (McGoodwin 1984:25), due to heavy fishing pressure with very simple technology, and does not offer very much potential for increased production. The fisheries of St. Lucia have two main seasons, a high season from January to June, and a low season from July to December.

The domestic fishing industry in St. Lucia, as indeed in all countries of the eastern Caribbean, is neither large nor economically very important. But for the people of the region, since pre-Colombian times fishing has been an important means of sustenance (Gold 1988:12, Koester 1985:2, Smith et. al 1991:1, Watts 1987:63). Since early colonial times fish has been the staple flesh protein in the Caribbean area, and today West Indians are also heavily dependent on locally produced and fresh seafoods in their diet. Aside from chicken, fish is still the least expensive form of flesh food in the Caribbean. According to Adams (1992:5) the annual per capita consumption of fish in the eastern Caribbean is approximately six times higher than that of the U.S, and more or less on the same level as Far Eastern countries. The per capita consumption of fish reaches its highest levels among low income groups. But even if the fish production has more than doubled since 1950, the production increases in the Caribbean region have been partially offset by the heavy growth in population.

The total fish landings in St. Lucia for 1991 is estimated to be approximately 1040 tons, and for 1993 to about 1115 tons. Of this, tuna contributes about 321 tons, dolphin fish about 207 tons, kingfish about 141 tons, flying fish about 89 tons, and a large group of "others" about 355 tons. The fishery sector contributes to less than 0,8% of the GDP and less than 2% of the workforce. In the OECS region, St. Lucia is the fourth largest fishing nation after St. Vincent and the Grenadines, Dominica and Grenada. The fish import is steadily increasing, and in 1994 St. Lucia spent more than EC\$ 10 million for fish imports, much of it to make up for shortages of fish supply during low season. Less than half of the demand is met by local supply. The export is negligible.

The St. Lucian fishery is still artisanal in nature and almost all the vessels are beachlanding, even if St. Lucia in the 60- and 70s was involved in a industrial shrimp fishery off Guyana (Mitchell 1988:70). The artisanal character comprises both the technology employed, the scale of production, and the organization of the industry. The traditional fishing vessel of St. Lucia is the dugout canoe type. These canoes are of about 7 meters in length, and made of "gommier wood", thus the canoes are often locally called "gommier". New fiberglass boats, either from Martinique or Trinidad have recently been introduced, with encouragement from the fisheries administration. More than half (about 270 boats) of the St. Lucian fishing

fleet (about 500 boats) still consists of wooden canoes, but the number of fiberglass boats are increasing rapidly, and new canoes are rare. During 1995 it is likely that the number of fiberglass pirogues will outnumber the wooden canoes. This tendency reflects the development of, and increased specialization in, trolling for offshore pelagics, at the expense of seine and pot fishing. The main reason seems to be that the reef resources are getting more scarce, and that seine and pot fishing in general are becoming less attractive compared to off-shore trolling. Virtually all boats are powered with 48 to 75 HP outboard engines. The large outboard engines have severe consequences in terms of fuel cost, and the catch pr. unit of fuel is far from optimal.

Most fishermen (more than 80%) do not own their own boats, and less than half of the captains are boat-owners. Most of the fishing boats in St. Lucia are actually owned by people outside the fishing industry or with only a marginal connection to it. The owners are very often "hobby investors", and have other occupations as their main source of income. Three boats per owner is presently quite usual, five is unusual, but was more usual in the past. The government tried to encourage the fishermen to get their own boats, but the majority of those who did, failed. There is no possibility to insure the vessels, so the economic risk of ownership is substantial. The lack of safety gear and sea-rescue service also makes the risk involved in the fishery quite high.

The total number of active fishermen in St. Lucia is quite uncertain, but is probably around 1500. It is well known that fisheries are often "employers of last resort" in the Caribbean, and this is certainly the situation in St. Lucia as well (Charles 1992:210, Gold 1988:13, McGoodwin 1984:8). This is despite the fact the fishermen are a high income group during high season. There seems to be, although deminishing, a social stigma connected to the profession of fisherman. The fishing industry is increasingly a refuge for the unemployed, impoverished and unskilled, and also absorbs surplus labour from other sectors, it thus plays a stabilizing "buffer" role in the economy. This tendency makes the fishing community more "fluid" and unstable. Less than two thirds of the fishermen are full time employed, and the seasonal unemployment for the greater population of the fishers is a huge social problem. The general state of high unemployment in St. Lucia also forces young people into the fishing industry during high season, even if they would prefer to have other kinds of employment if options existed. This also partly explains why young people are attracted to the well-paid latwenn fishery, and not to pot and netfishing.

Very few of the fishermen have attended Secondary School, and it is probably fair to say that many of the them are drop-outs from school and society in general. Illiteracy is still very common among the fishermen, and hinders them from reading even simple instruction manuals, messages from the Department of Fisheries, etc. Together with low self-esteem, this often produces a suspicious and distrustful attitude, especially towards leaders, government agencies etc. As McGoodwin (1984:8) observed, many of the fishermen in St. Lucia exhibit the anomic pattern commonly encountered among impoverished people troughout the world. They are quite often suspicious and contentious among themselves, but can exhibit solidarity

when facing opposition. The degree of group cohesion is very limited, and they trust only their closest family and friends. They also tend to be conservative, especially in economic matters, and they highly prefer to get cash every day, which often leads them to sell to vendors instead of the Fishery Complex, which pay the fishermen only twice a week. They are also reluctant to organize or be committed to joint action. Like most lower class people in the Third World their interests and needs are narrow and economic time horizon usually short-term, and they believe in immediate gratification. These cultural elements make it often difficult for the fishermen to accumulate capital, and particularly to buy their own boats.

The fishermen in St. Lucia are in general very concerned about personal independence and freedom, which they regard as one of the favourable aspects of their status. These values are commonly held by fishermen in other parts of the world. As stated by Peters (1992:28) individual freedom in general is held as a very central value in the eastern Caribbean, which explains the almost extreme emphasis that some of the St. Lucian fishermen put on this value. The fishermen do not believe in help from the Government, and there is a general attitude that the Government only pays lip service to the development of the fishery industry of St. Lucia.

The St. Lucian fishery can be divided in four categories: "Latwenn" or off-shore pelagic, coastal pelagic, shelf demersal, and slope or bank demersal. The offshore pelagic fisheries are by far the most important, both in landings (ca. 70 % of total landings) and in activity (ca. 60% of the total trips). The migratory pelagic species are caught off shore in great numbers by hand trolling ("latwenn" in creole) or longline, and flying fish are caught by gill-nets and the "kali", a round scoopnet made of bamboo. The development of this fishery was dependent on the introduction of reliable outboard engines, and it is not more than 25-30 years old. This fishery is now rapidly increasing in importance, and the season seems to be gradually prolonged in time. However, it is still highly seasonal with about a six fold decrease between high and low season. The availability of the most important species such as kingfish/wahoo and dolphin fish is very seasonal, while the tuna shows no seasonal patterns at all (Gobert et al. 1995). Surface gillnets (drifting or encircling) are employed for catching flying fish, often in combination with the kali.

Coastal pelagics account for about 15% of the landings and about 10% of the trips. In this fishery, gillnets are most commonly used. Balaou nets and fillet nets are surrounding type of nets which are set around schools of halfbeaks/ballyhoo. Beach seines are only used in a few places around the island, where smooth, sandy bottom conditions prevail.

In the demersal fishery various small species of reef fish, and larger fish from the off-shore banks and deep slopes, are caught, using bottom longlines, various nets and fish pots. These species include grouper, snapper, lobster and conch. Demersal fisheries provides about 12% of the landings, but contributes to nearly 30% of the trips. It is difficult to estimate the amount of deep demersals caught compared to shallow demersals. Pot fishing contributes to 50% of the demersal landings and

about 60% of the trips, line fishing contributes about 26% and 23% (Gobert et al. 1995). The fish pots or fish traps ("nas" in creole) are set on the bottom, and baited with either vegetables or small fish; a few fishermen also use unbaited pots. The pots most commonly used are the Antillean Z type, made of bamboo or cedar fiber, or chicken wire. Some recent ones are also made with a framework of iron. The development of the tourist industry on the island gave rise to a substantial increase in the demand for spiny lobster. In some part of the island, especially in the south and west where the "latwenn" fishery is predominant, the pot fishing shows clear signs of decrease, due to overfishing, and problems with the recruitment of young people.

Bottom gillnets (one panel) and trammel nets (two or three panels) are used to some extent - even if the latter type is prohibited and wasteful to use - to catch snapper and most other types of reef fish beside grunts, jacks, turtles, spiny lobster, conch, etc. The bottom net and trammel net fishery is almost negligible in most part of the island. The net fishing has generally declined several places over the years. Handlines or bottomlines are employed for shallow species like snapper, grouper, triggerfish, squirrelfish etc., but also for deep demersal species like red snapper, queen snapper, grouper and deepwater jacks. The fishery takes place partly on the quite shallow shelf and with mixed catches, and partly in the deep slopes of the island shelf and on the banks in the channels. This fishery takes place to some extent around the whole island, but Vieux Fort and Choiseul are specialized in the deep demersal fisheries, while Gros Islet is specialized in the mixed shallow line fisheries (Gobert et al. 1995). Lines are often used in mixed fisheries, where also trolling or pot fishing is taking place. Sometimes handlines also are used to catch flying fish, especially when their concentrations do not warrant deployment of a gillnet.

There is also a minor fishery for white-spined sea-urchin, locally named "seaegg" ("chadon" in creole). This fishery has been closed for a few years due to earlier over-harvesting and disturbances in the recruitment. In the town of Laborie this fishery is regulated by a co-management arrangement between the harvesters and the Department of Fisheries. The once important black-fish (pilot whale) fishery has declined and practically ceased, and so has the fishery for porpoise/dolphin. Commercial recreational fishing has been developing since the early 50's, and is of increasing importance (DeBeauville-Scott 1994).

There are large variations in type of gear, techniques, and amount and species landed around the island. The seasonal characteristics will also vary according to landing site. The "latwenn" fishery is predominant in the east and the south, (where it accounts for about 80% of the catches), while all fishing types exist in almost similar proportions on the west coast. Close to 100% of the coastal pelagics are caught on the west coast. In the north demersal fishing is dominant (ca. 55%). In Gros Islet and Soufriere are most gears used all year around. "Latwenn" and pot fishing are the only fisheries that exist to some degree in all fishing sites (Gobert et al. 1995).

The composition of the pelagic catches shows a much lower species diversity than the demersal one. As Gobert et al. (1995) shows, the whole demersal catch, comprising maybe as much as 50 species, is lower than the catch of each of the first three species groups caught in the offshore pelagic fisheries.

In St. Lucia the fish is landed at some 15 fishing centres scattered around the island. Most of the fish is sold fresh on the water's edge or transported to Castries, after little more processing than simply gutting and sometimes chopping into smaller pieces. The fishermen rarely keep any unsold fish, but sell it at any price to get it off their hands. At the small places the fishermen sell the catches themselves, while in the main landing centres, like Dennery and Vieux Fort, the fish is sold to middlemen, to the customers directly or to the "Fishery Complex" (St. Lucia Fish Marketing Corporation -SLFMC- run by the National Development Cooperation) to a fixed price set by the Government. SLFMC in Castries has a cold storage capacity of 100 000 Kg, and purchasing depots in Vieux Fort and Dennery. Small cold storage facilities are also established at Anse la Raye and Laborie. The Complex presents the advantage that it stabilizes the fish prices, and that the fishermen "get rid" of their fish in a fast and convenient way. Under the market system of 1983, glut-level market conditions often arose during high season, forcing the fishermen to sell their catches for very low prices. During low season, the fish was scarce and extremely high priced, and insufficient to satisfy the island's demand. The local marketing system has been improved in the last years, and is now to a lesser extent a bottleneck in the development of the fishery compared to what it was in the 1980's (Goodwin 1985). But even if a great majority of the St. Lucians live close to the coast, a large number of consumers inland cannot depend on a regular supply.

## **5. MANAGEMENT AND USER-GROUP INVOLVEMENT IN THE FISHERIES**

When the 200 mile exclusive economic zone was introduced, most Caribbean states were not prepared to address the requirements and responsibilities of ocean management (Gold 1988:4). They did not have the resources to fully police their coasts, and by no means to police their extended waters. For the small Caribbean states, benefits that could be expected from this new regime were also modest.

So far, regional initiatives have been more important than the EEZ. The OECS (Organisation of Eastern Caribbean States) managed to establish a harmonized fishery legislation - a standardized Fisheries Act - for its seven member countries. This standardized Act, which is now in force, opens for the creation of Local Fisheries Management Areas. According to Fisheries Act of St. Lucia (# 10 of 1984), the Minister may designate an area as a Local Fisheries Management Area (LFMA), and designate any local authority, fishermen's co-operative, fishermen's association, or other appropriate body representing fishermen in the area, as a Local Fisheries Management Authority for that area. This can be done where there is presently no appropriate body representing fishermen in the area. The Act also allows for the leasing of areas for aquaculture and the establishment of marine reserves and fishing priority areas. However, it is interesting to observe that this

harmonized fishery legislation in the Caribbean countries is only to a limited extent the result of a gradual institutional adjustment, which is the most common in most countries (Jentoft 1994:4). The harmonized fishery legislation in the OECS/CARICOM region is the result of a grand design implemented with assistance by FAO, and there are some indications that the national authorities do not pay the legislation the attention and respect it deserves.

The eastern Caribbean fisheries are by law open-access, and anyone who wants to fish is allowed to do so (Smith and Berkes 1991), and one of the consequences of this condition is an over-fished near-shore area. Until quite recently overfishing has not been seen as a serious problem by the policy makers, and this can mainly be attributed to three factors. Firstly, a severe lack of adequate data on the situation of the stocks reduces the possibilities for understanding and managing the various fisheries. Secondly, the relative high landings of migratory pelagics during the high seasons have reduced the motivation for dealing with resource management (CEP 1991:155). Thirdly, the attempt to supply the nation with animal protein, and to cut back on the high fish import bill and the consequent drain on foreign exchange. However, the Department of Fisheries has embarked on a broad program to structure, organize and develop the industry. The cornerstone of this policy is an integrated approach established under the Fisheries Act of 1984.

The Government has now stated that there is no longer free access to the living marine resources (DF 1994). In order to conserve stocks and to maximize the resource rent, gear restrictions, closed seasons, closed areas, catch quotas and a licencing system are being introduced. Fisheries Officers were given powers of arrest, and a Marine Police has been established. Since 1987, St. Lucia has had regulations on lobster, conch, and turtles, and marine reserves and fishing priority areas have been established. They still (spring 1995) await proper demarcation and effective management. The Department of Fisheries recently completed the first comprehensive registration of all vessels and fishermen involved in the industry. All the fishing boats now require a proper registration number clearly displayed on the boat. To be registered, the boats must also fulfill some basic safety requirements. ID cards will be issued to all fishermen. There is now, at least theoretically, limited entry to the St. Lucian fish resource. This also indicates that the industry is increasingly gaining organizational strength. However, this closing of the commons may also have substantial negative effects, and there is usually a dilemma whether there should be free access to the fisheries or whether access should be the privilege for a few. In a poor country like St. Lucia open-access to the fisheries could be a "buffer" related to the situation in other parts of the economy. This would require that the fish stocks are capable of increased harvesting in short periods, a requirement that is present only to a limited extent in the St. Lucian waters.

According to the OECS harmonized legislation there shall be a Fishery Advisory Committee. This shall include representatives from fishermen's groups, cooperatives, processors, distributors, the tourist trade, and any other group involved in, or dependent on, fisheries. The Minister in charge of fisheries should do everything possible to ensure that all relevant implications of management

decisions are considered (Mahon & Mahon 1990:27). The Committees main role is to review relevant information and to act as advisor to the Ministry. However, this body has yet not been established in St. Lucia.

According to Renard (1994:2) until recently there have been several limitations in the policy and institutional frameworks that existed at the national level. Resource management was conceived and perceived largely as a technocratic exercise, and with little cooperation among the agencies involved. There has also been a traditional lack of appreciation of local needs, issues and practices. Very often the Government perceived conservation as a struggle against the destructive resource use practices of the traditional society. Accordingly, McGoodwin (1984:24) indicates that there exists a strong antipathy, distrust and skepticism among the fishermen regarding the fisheries managers. But these hostile attitudes against user-group participation can also be explained by political traditions. The size of the islands and their political tradition facilitate decision making that is vulnerable to cliques and kinship networks.

However, several interesting projects regarding user-group involvement and local small-scale resource management have been undertaken, most of them in collaboration with Caribbean Natural Resources Institute (CANARI). These projects comprised resources such as mangrove, sea-urchin, reef fisheries, and marine protected areas (Smith et al.1991) This indicates that there are possibilities to establish new regimes in collaboration with the government agencies, if the right approach is used. These cases also illustrate the important role an NGO (CANARI) can play in the implementation of a user-group oriented management system, and the large amount of work and assistance that is required in such a process. They also illustrate the significance that experimental projects can have on national policies and programs.

## 6. THE FISHERY CO-OPERATIVES

Nine fishery co-ops are registered in St. Lucia, in addition to the umbrella organization the National Association of Fishermen Cooperative Society Limited (NAFCO-OP). With the exception of the first fishery co-op on the island - established in the major fishing port Vieux Fort in 1966 - are the co-operatives generally established by incentives from the Government. From the early 1970's, the Government assisted the co-ops by giving them duty free concessions on engines, gasoline and fishing gear. In the 1983/84 financial year, these concessions amounted to about US\$ 100.000 (FAO 1985). The fishery co-ops provide fishing gear and tackle and sell petrol and other lubricants. Very few of the co-ops offer any additional services, and they are generally very small businesses. However, the fishing cooperative organizations have definitely not been uniformly successful in St. Lucia's fishing communities; an observation in line with that of McGoodwin (1984:17). The co-op in Vieux Fort is working quite well, and those in Choiseul, Soufriere, Dennery and Anse-la-Raye still survive, but are not thriving. The co-op in the capital Castries is basically a gas station for cars, and the co-ops in villages like



Gros Islet, Canaries and Laborie are more or less inactive.

The reasons for the problems are several. Several co-ops suffered from difficulties in raising sufficient starting capital. The fishermen were reluctant or unable to contribute, and most of the shares were bought by business people from outside the fishery sector. In general the members are not very interested in the co-op activities, and they often experience problems in getting the support from the member to do investments. It is generally very difficult to get a quorum, and meetings must be postponed time and time again. Bad management, poor record keeping, theft, embezzlement and bankruptcy have forced some of the co-ops to shut down for a period and reorganize. Even the members often showed distrust in the leadership. Some regarded bickering among members as a problem, others thought that leaders "played favourites" with certain members. Some of the fishermen indicated that the co-ops were not real democratic institutions, because they did not encourage fishermen who did not own boats to join the organization. However, if all fishermen had been included, the bickering may have destroyed the organization. Some members indicated that the co-ops were not run democratically, since the leaders who ran the organization did so without listening to the members. Many key informants also indicated that there was too much government interference in the administration of the co-ops. It is also difficult to get the fishermen to take positions in the co-op, and several of the co-ops have been run by non-fishers. This is in line with McGoodwin's observation (1984:18), that the co-ops suffered from problems such as internal bossism, corruption, inept management, disorganization, etc.

Most of the services the co-op can offer are boat oriented, and the benefits for members who are not boat-owners are small, as it is usually the boat-owners who also own the gear and equipment. The co-ops were actually often described by the regular fishermen as "boat-owner organizations". The boat-owners receive a duty refund from the co-op on purchased gasoline every third month, worth 56 cents per gallon. Most of the boat-owners are therefore members, while only a very small portion of the regular fishermen have joined the co-ops. Based on the amount of shares, the members receive a patronage refund annually, if a net profit has been realized through the year. But net profit is rare, and in most of the co-ops, patronage has not been refunded.

According to Andre-Bigot et al. (1995:10) those who are affiliated with co-ops are generally older than those who are not. This can indicate that most of the present members have been members from the beginning, and that young newcomers, to a lesser degree, joined the co-ops. It also appears that the older co-operatives are in better standing than the younger ones. According to most fishing people, in addition to the benefits the co-ops already are providing, the most important priority for the co-ops should be the provision of accident, medical and life insurance. Also loan assistance was often mentioned.

The umbrella organization, the National Association of Fishermen Cooperative Society Limited (NAFCO-OP) was established in 1978. The co-operative in Vieux Fort was the initiator and founder of NAFCO-OP. This organization was intended to

be the collective voice of the fishery co-ops, and to represent them in national arenas, and to work in collaboration with the Department of Fisheries. Another main task was to import fishing gear, supplies etc. NAFCO-OP also makes payments from a distress fund to co-op members who suffer from some type of accident or loss related to the fisheries, and function as a kind of equipment insurance for the boat-owners. NAFCO-OP tried to some extent to import gear from Japan, but because of the small quantities, the prices did not prove very favourable. Today, the main function of NAFCO-OP is to pay out distress funds, and some informants even claimed that the fund has been misused from the beginning.

The organization apparently became dormant quite soon after it was established, due in part to a poor financial platform, thus making it impossible to carry out its planned intentions. Some also indicated that there was a lack of replacement in the board, and that the leadership lost its ability to keep a creative focus. Informants indicated that NAFCO-OP was more a social group than anything else, and that several of the members are either not fishermen or not very sensitive to the fishermen's and the co-operative's needs. The fact that only the boat-owners were represented in the board, made it a much less representative organization than for example a fishermen's union, and the fishermen did not seem to regard NAFCO-OP as "their" organization, even if the fishery authorities claim it is. Most ordinary fishermen know very little about NAFCO-OP.

NAFCO-OP has never had the necessary power and unity for being a real counterpart to the Government. However, the organization is represented in the Pricing Committee (together with the Department of Fisheries and the manager of the Fishery Complex) that is supposed to set the fish prices at the Complex. The main focus of NAFCO-OP is marketing and co-ordination, but the potential for involving the co-ops in marine resource management activities has been noted by both the Department of Fisheries and CANARI (CEP1991:281).

The managers of the co-op and the large majority of fishermen do not think that vesting management responsibility with the co-op is a wise idea. Many state that the co-ops should have a say in management matters, but not the authority to manage the fisheries resources. The co-operative lacks the knowledge required to do that. Management of resources and management of business are not easy to co-ordinate within the same organization.

The co-operatives were established from above in the sense that the Government provided the necessary incentive structure to get the boat-owners to establish them. Without the fuel rebate and tax-free purchase of engines, oil and equipment, there would most likely not be a fishery co-operative in existence in St. Lucia today. These incentives were essential, and a genuine co-operative spirit seems to be lacking in most parts of the St. Lucian fisheries. A fact that may be indicative of this is that most co-op members have a minimum share, and that they are generally much more concerned about what they can take out of the organization than what they can contribute to it. As McGoodwin (1984:19) concludes, most of the fishing people would be eager to join the organization if they were to be run democratically, and

could provide important tangible benefits. This study corroborates this observation.

## **7. SOUFRIERE MARINE MANAGEMENT AREA**

In the town of Soufriere on the southwest coast of St. Lucia, a local NGO - the Soufriere Regional Development Foundation - serves as a management agency for the coastal and marine resources in the area. The concept is based on area management and zoning of the coastal waters.

Soufriere, the centre of a region with about 8000 inhabitants, is an expanding tourist destination, but is still also heavily dependent on fisheries. The town has about 180 fishermen and some 80 boats. The main fishery is for coastal pelagics and reef fish, with fish pots, beach seines or fillet nets. This type of fishery is particularly important in this area since the town is located far from the offshore eastern fishing grounds where the migratory pelagics are found (George 1994:3). The expanding tourist industry has several effects on fishing. It has made fishing relatively less attractive, as f.ex. marine tourist transportation is less risky, more profitable, and much less physically demanding than fishing. It is unclear whether the total number of boats have increased due to the tourist industry, but it is quite clear that number of created jobs pr. purchased boat is less in the watertaxi industry than in the fishing industry. While one person pr. boat is the most common in the watertaxi industry, two is the minimum number of crew required on fishing boats, and three are the most common. The possibilities to combine watertaxi and fishing are present, but to a large degree the "latwenn"-season and the yacht/tourist season are overlapping.

The justification for the project was the degradation of the reefs, and increasing conflicts of access and uses in the local coastal areas. The tensions between tourism, fishing, recreation and transportation were increasing during the last decade, mainly because of the expanding tourism industry. Soufriere Bay has increased in importance as a yacht anchoring site, and the activities at Anse Chastanet and Jalousie tourist resorts have expanded, especially when it comes to scuba diving, but also in water taxi and other types of transport at sea. The fishermen in the area have simultaneously increased their effort, and this, combined with destructive practices such as placing fish pots on the reefs, throwing rocks into the water over the reefs to chase the fish into nets, and the presence of "ghost fishing pots", have contributed to the degradation of the resource (Smith & Renard 1994:3). Some of these fishing grounds used to be the most abundant on the island. In the late 1980's at "Duwabouk" - a fishing ground only 100 yards out from Soufriere Police station - a seine caught jacks worth EC\$ 70.000 in just one catch. The increased pressure on the fishery resource stems mainly from fishing, even if most of the fishermen claim that diving has a substantial negative effect as well.

In 1986, the Department of Fisheries created three Fishing Priority Areas (FPA) and several Marine Reserves (MR), which covered most of the reefs outside Soufriere, but the conflict persisted and even escalated. This can be explained in part by the fact that the majority of the traditional trap fishing grounds were closed by the

introduction of Marine Reserves, while the Fishing Priority Areas were located in the major beach seining bays (George 1994:5). This gear-biased distribution of access to fishing grounds caused both "political" tensions and practical problems. It can often - in terms of conservation - be an advance to exclude all user-groups, as in a marine reserve, instead of only some. It will avoid or ease legitimacy problems when everybody are treated the same way. However, this case illustrates that the marine reserve area has to be carefully selected, and that not to do this can cause serious problems. It also proved to be difficult to enforce the Fishing Priority Areas, and to get other user-groups to give access to fishing. The lack of support for the FPAs was substantial, and this generated an additional lack of support for the Marine Reserves (George 1994:5). Thus, the user-conflicts prevailed, and several others attempts and initiatives to solve the problems failed. Against this background of escalating conflicts and insufficient solutions, the new project started in late 1992.

The project was established and implemented in close collaboration with Caribbean Natural Resources Institute (CANARI) and the Department of Fisheries. The French Mission for Technical and Cultural Cooperation and USAID provided important funding support. From 1988, CANARI had led a survey of the coastline around Soufriere, which the new project could now take advantage of. The location of the most important reef was mapped, and zones for marine activities, and management procedures, were proposed. The existing agreements connected to the area, such as the MRs and FPAs, were deliberately ignored. A process of negotiation and participatory planning started during the winter of 1992/93, where relevant user-groups and national agencies participated. Three one-day meetings were held, involving the major user-groups and stakeholders (SRDF 1994:10). Further consultations and two final meetings were held in 1993, focusing on the implementation of the project. At this stage there seemed to be a clear willingness on behalf of the participating stakeholders to solve the user-conflicts, and the process ended in an agreement on zoning and mapping of the coast (see SRDF 1994). At a later stage, this agreement is planned to lead to the formulation of a management and development plan.

The project covers 10 km of the west coast area from Anse Jambon in the north to Anse L'Ivroigne in the south. The stakeholders agreed in a strict and restrictive zoning to protect reef habitats and to ensure the continuation of fishing activities, and identified areas where multiple use should be encouraged. The agreement includes the implementation of four categories of zones: marine reserves, fishing priority areas, multiple use areas and recreational areas. In addition to this, yacht mooring sites are identified, as no free anchoring would be allowed in the region. Also, several other fishery-relevant agreements were agreed upon, comprising appropriate techniques, mesh sizes, and use of degradable material in the fish pots.

The main concern in the project is to involve the resource-users in the management, and take advantage of their knowledge of the resource, and their frequent presence at the site of the resources. Involving the resource users gives the managers access to their knowledge, and they can actively use them in implementation of management measures and gathering of data and information about the resource base. This will

be the case with the dive operators, who are encouraged to assist in preventing damage to the fishing gear, to conduct reef monitoring, and to report destructive use of fishing gear. The diving operators will submit statistics to St. Lucia's Diving Association, locally known as "Anbaglo" (creole for "underwater"), and there are plans to expand the program to other reef areas on the island. Fishermen are already sampling the different populations, and it has been suggested that this be organized with the fishery co-op.

The establishment of marine reserves is expected to give increased abundance and size of fishery species and increased production of eggs and larvae, and a trickle-down effect by the emigration of these from the reserves to the fishing grounds. The reserves would protect the habitat and the species, and increase or maintain the genetic and biological diversity. They would also provide insurance against management failures and stock collapses in the fishing grounds. Most of all, these types of regulations are easier to enforce than traditional management measures. The cost for the fishermen will possibly be a small reduction in fishery landings during the first two to three years, until the trickle-down effect become apparent.

The Soufriere Marine Management Area will be launched on June 1, 1995, as an interim institution, which will be responsible for coordinating the management activities and guiding the formulation of the management plan. The Soufriere Foundation, acting as executing agency and administrator, will manage the area through a Technical Advisory Committee (TAC), comprising all the groups of stakeholders and the relevant management agencies. The Foundation will serve as the Secretariat, while the department of Fisheries will serve as Chair of the Committee (SRDF 1994:19). There is also a Technical Working Group comprising representatives from the Department of Fisheries, Soufriere Foundation and the Soufriere Marine Management Area. Within this framework, agencies like the Department of Fisheries, St. Lucia Air and Sea Ports Authority and Soufriere Foundation, among others, will retain their control and authority, but can delegate selected management responsibilities to the Soufriere Foundation or other relevant local institutions. No new legislation has been required. The existing Fisheries Act of 1984, and the Parks and Beaches Commission Act of 1984 having proven sufficient (SRDF 1994:20). The project plans to be self-financing after a period, based on fees from divers and yachts who use the resources and facilities, and is planned to be running without external assistance in 1996. The project will be staffed by a Marine Area manager and two wardens.

The implementation of zoning was about to start in the spring of 1995. This phase involves putting out buoys, establishing demarcation lines between the different zones, installing interpretation panels and information signs, etc. There were indications that some of the fishermen did not respect protection zones, if they were not clearly marked, even if the fishermen knew well that the zones were declared as marine reserves. However, most of the fishermen verbally supported the new coastal zone regime in the area, and were fairly content with the solutions.

Among the problems that had not been solved, the fishermen mentioned that tourist

related divers often cut up the fishing pots to free the fish. This illustrates the distrust and polarisation between the fishermen and the divers. In a meeting held in February 1995, some foreign reef experts sought to teach and convince the fishermen of the benefits of the marine reserves in the area. Their distrust was even more clearly expressed at this meeting. The reef experts concluded that it was of vital importance that the fishermen did not fish in the marine reserves, and contended that it had not been proved that recreational scuba-diving was harmful to the reef and the fish resource, and thus scuba-diving would be allowed in the marine reserves. The fishermen reacted quite strongly against this, and it was obvious that they also wanted the "white and rich" tourist industry to give some concessions, not only the "black and poor" fishermen. In this set up, the fishermen will carry all the burdens of the marine reserves, while both parties would benefit, and the fishermen clearly found this unfair. In such circumstances it may have been wise to exclude the scuba-diving community from some areas, just to show symbolically that it is necessary for all parties to contribute to the establishment of a new and better coastal management regime. The four marine reserves are "next door" to the two hotels and it is very easy to understand that the fishermen perceived this as an encroachment on their commons, where the fishermen loses and the hotels gain. This enclosure of public areas by the all-inclusive resorts is even more evident on land, and in general, a lot of St. Lucians were frustrated and provoked about the closing of the beaches and other attractive areas for public access.

Paradoxically, the process of increased user-group involvement in Soufriere causes the fishermen to complain that they should be included more when it comes to meetings, information etc. This can be explained in part by the fact that the fishermen now know how little they understand of the mechanics of management. Thus, some information and involvement creates a need for further information and further involvement.

It is far too early to tell whether the project will be successful, but several important things have already been accomplished. The collaboration in monitoring has improved the dialogue among the different groups of stakeholders, and the users commitment to conservation and management has increased (Smith & Renard 1994:7). Some important issues regarding the monitoring of the reef, and fishing in the border zones were still not sorted out, but a dialogue was established, and there are reasons to be optimistic.

## **8. THE LOCAL GOVERNMENT SYSTEM**

The local government system in St. Lucia is an extension of the central Government. The system is not self-financed, but subsidized by the Government. Since the new decentralization scheme was introduced in 1987, St. Lucia is divided into eight regions. In each of these regions there are established Regional Councils, comprised of representatives of community organizations and other residents of the towns or villages. Castries has the only City Council, and has more autonomy than the other Councils. Gros Islet, Soufriere and Vieux Fort have Town Councils, while

Anse La Raye, Canaries, Choiseul, Laborie, Micoud and Dennery have Village Councils. Most of the Councils have from seven to nine members. The co-ordination and management of the local government system in the Department for Local Government is led by the Minister of Local Government, Permanent Secretary and the Local Government Officer. The chairmen of the Councils have direct access to the Minister of Local Government. The Councils are administratively led by the City, Town or Village Clerk.

The system of local governments has had its ups and downs. The town board of Castries was established in 1851 and is known as the first elected body in the Caribbean. It was later pushed out by the Government, and then again reinstated. The main function was to collect taxes. The other areas of the island were included in the local government system in the late 1940's. There were regular elections for local government, and the system was working quite well until the early 1970's when the party system became very strong. Ever since the Labor government ruled from 1979 to 1982 have the elections been cancelled out, and the members of the councils been appointed by the government. This is against the constitution, but was introduced by the Labour government to eliminate the opposition that dominated the councils when Labour took office. After the period of political unrest from 1978 to 1982 was the United Workers Party again in position. The party took advantage of Labour's political blunders and kept the system in place, and for the same reasons. However, there is now a certain pressure and a discussion under way about reinstating the local elections for the town and village councils. The government is not very supportive of this and argues that the local government system is doing very little and sees no point in supporting a reform. Those who support a reform in the local government system, on the other hand, argue that the local government can do very little without democratic elections and government support. A classical Catch 22 situation.

However, the reinstating of elections is thought to revitalize the system, and to make the representatives more committed. In the present system there is a lack of commitment and interest on behalf of the members which is regarded as a problem. Another point is that local government was an important training ground for future politicians. In general the St. Lucians are not very interested in what the councils do. The meetings are supposed to be public, but it is quite rare when someone outside the council actually attends the meetings.

The financial base for the system is poor, since there is not very much to gain from taxation. For some time the responsibility for electricity, water and sewage was in the hands of local government, which increased the financial platform. But the Government took away the big revenue-earning functions from the councils. The present areas of responsibility are quite limited, and the fields in which the councils are dealing are limited to sanitation, house tax and trade licence, parks and playing fields, markets, cementary, maintenance and works, and administration. Each of the councils have the authority to set by-laws for the area. In terms of staff, the numbers are ranging from about 68 in Vieux Fort, to about 12 in Canaries.

The only permanent interference from the local government regarding the fisheries is the collecting of a market tax. To sell fish, the fishermen must pay a fee to prices ranging from 3 to 5 EC\$, each day they sell fish on the street or at the local market. This is meant to cover the use of water, light, the Complex etc. at the landing and marketing site. Other types of interference are occasional and rare. For example, the Town Clerk of Vieux Fort wrote a letter in February 1993 to the fishermen in the area, and complained about fish gills left on the shore, and advised them to dispose of the gills in the sea at some distance away from the shore.

## **9. DISCUSSION**

In St. Lucia the Government regards the fisheries as quite an unproductive industry and "poor second cousin" of agriculture, a fact also reflected in the organizational structure. There is also a general scepticism towards fishermen, within the industry itself. However, the co-management idea has been politically feasible for certain resources in some particular situations on St. Lucia, and even if the political framework and tradition strongly favours central control, the authorities have established a legal framework relevant for co-management also in the small scale fisheries. However, the current extent of user-group participation in the St. Lucian fisheries is generally very limited.

The question now is to what extent some of the three organizational structures discussed above can serve as an institutional platform for the establishment of a co-management regime in St. Lucia's small scale fisheries. The local government system is hardly a suitable organizational structure suited for the purpose of user-group involvement in the fisheries. Firstly, the system is not very democratic nor is it representative, but rather a party bias is central in the current system. Thus, the organization lacks the all important legitimacy basis needed for successful co-management. Secondly, there is no existing competence or legislation that could be a point of departure for linking fishery management functions to local government.

The fishery co-ops are democratic organizations, and have some support among the fishermen, who at least to some degree have the competence and knowledge of the industry required for dealing with some aspects of fishery management. However, the fishing co-operatives of St. Lucia are at present, far from capable of handling a resource management efficiently. They need to be strengthened and better organized at the local and national levels, to be able to fulfill such a difficult and complex task. A similar conclusion has also been drawn about the fishery co-ops of the neighbouring island of St. Vincent (Jentoft & Sandersen 1994).

The Soufriere Marine Management Area is a very promising project which focuses on solving user conflicts in the local coastal areas. It is, however, far too premature to tell whether the project will be successful in terms of resource management and permanent user-group participation. At present the marine reserves are the only strictly resource related management measure controlled by the SMMA. The other measures are to regulate access to the fishing grounds in order to solve gear



conflicts, which will not directly influence on resource conservation. It is also unclear to what extent, and in what way, the user-group will be permanently represented in the management boards of the management area. There is also a problem as to how the representatives will be selected. As yet, the fishermen are represented by key persons within the fishery co-op and whom are appointed by the Government. But as we have seen, the co-ops are not very representative bodies for the common fishermen. However, if this project develops in a more democratic direction, it could probably be labeled as co-management.

But this organizational set up is limited to the Soufriere area, and there is no reason to believe that this model is suitable as a national management scheme. However, the approach seems to be very functional, and the methodology might be of great value also in other areas of St. Lucia. Even if the project is prime for a new positive trend in resource management and user-group participation, there is no guaranty that these types of projects will receive government support in the future. The project has so far not been designated as a Local Fisheries Management Area. Projects like this are not much in line with the political tradition in the eastern Caribbean, and will always to some degree be conceived as a challenge to the traditional, centralized political systems in the region. The fact that the Fishery Advisory Committee has yet not been established could be understood in this context.

There is also a question as to whether the fishermen really want to participate in local resource management. The fishermen, co-ops, and other relevant institutions and stakeholders, will not necessarily take the role of resource managers without some assistance, encouragement and certain obvious benefits. So even if most fishermen accept that regulations and management are necessary, it is not obvious that they will contribute to this. The fishermen are generally not used to organized behaviour, and joint actions. Involvement in organizations is a new challenge for them, but if there are benefits connected to joining, it is likely that the fishermen will support it. However, marine resources are not linear systems, and stochastic changes and unforeseen consequences are common, and the restrictions and costs caused by the regulations may often be in vain. The fishermen are often aware of this chaotic nature of fisheries and tend to prefer more pragmatic and informal ways of dealing with resource degradation.

In the St. Lucian context it is also questionable to what extent the fishermen are conscious of the resource situation and their contribution to this. The structural change from demersal fishing in coastal waters to fishing off-shore for pelagics, can be seen as an adaptation to the poor resource situation in coastal waters, but also as a change that makes coastal resource management less relevant. However, the large amounts of fish that can be harvested in coastal waters under a working management system, is still a very good argument for improving the management system. An improved resource situation could also improve the recruitment problems in this type of fishery.

Another question is what the natural locus and scope of management and user

participation is in the fisheries of St. Lucia. The small size of the country (roughly about 40 km x 20 km), makes the distinctions between local, national and central quite fuzzy. A national management system in St. Lucia, would for example in a Norwegian context be regarded as a very small and local management system. One crucial question in most countries is how to find an appropriate balance between the central and the local parts of the management system. At what level should user-group participation take place? In St. Lucia today there is only one democratic, political level, and that is the national level. The question is to what extent smaller geographic units will be functional in fisheries management in terms of political power, democracy, participation and administration.

In addition, the ecosystem borders are relevant when it comes to the geographical scope of the management regime. In St. Lucia there are two main types of ecosystems relevant to the fisheries. One local coastal ecosystem comprising demersals and coastal pelagics and one off shore comprising large pelagics. It is quite clear that the off shore fishery for large pelagics is not suited for local co-management types of regulations. A management regime comprising these species must be on the transnational level, as these species are migratory. However, in St. Lucia this fishery accounts for about 70% of the landings, and is increasing every year. Thus, the coastal fisheries, which are better suited for local management, comprises less than 40% of the landings. But even these fisheries are difficult to manage as the problem of multi-species fisheries occur.

Co-management is one of many forms of collective action. The most evident prerequisite for collective action is organization. However, the fishermen of St. Lucia are not even close to forming any kind of organization. The market is getting more and more organized and controlled by the Fishery Complex. The entry to the industry is getting organized through licensing, the regulations of the fishery are getting better organized, and it is clear that the fishermen should have a national organization or union to match this tendency. Surrounded by well organized counterparts, the fishermen must organize to have a say in the development of the industry. Also the government will benefit if the fishermen get organized, as this will give them one (or a few) representative and responsible actor or counterpart to deal with, instead of 1500 individual fishermen. It is clear that the fisheries co-operatives cannot presently fill this role. The co-operatives are associated with, and only representative for, the boat-owners, and many of them are not even primarily in the fishing industry. They will not have the representativity, and thus, the legitimacy necessary to represent all the fishermen of St. Lucia. Aside from this, they have an excess of internal conflict and economic problems to be considered a suitable national organizational platform for the fishermen. Even if the co-operatives are useful, they are not a sufficient organizational structure to meet the problems of the St. Lucian fishermen.

Instead of trying to establish local and more or less independent co-management systems in the different areas, a better idea could be to start by establishing a national fishermen's union. This could be wise especially with regard to the particular institutional, political, environmental and social environment of St. Lucia. A

fishermen's organization can function as a "threshold" where only the serious fishermen enters and runs the organization, and can also be beneficial for recruitment in the fishery. But the question of a fishermen's union is not without dilemmas. A stronger user-group organization can easily put more pressure on the resource, as it increases the risk for the promotion of special interests at the expense of public interests. With this we can see the development of the "fox in the henhouse" syndrom. In addition, also a national fishermen's organization will have to be supported by legislative measures from the government that guarantees the fishermen some kind of specified rights or benefits, that could guaranty their support. This could easily cause new conflicts, problems and costs.

## 10. CONCLUSION

This study shows that local co-management regimes may be a proper solution to only a part, if any, of the fisheries of St. Lucia. Firstly, there are ecological reasons. Not all fishery resources lend themselves well to co-management. St. Lucia has positive experiences with co-management-related arrangements on coastal resources like mangrove and sea-urchin. Reef fisheries, lobster, conch etc, can probably be included in such a framework, if the problems linked to multi-species fisheries can be managed. The fishery for coastal or off-shore pelagics are not very well suited for co- management at all. However, user-group involvement can still improve these types of fishery, especially when it comes to legitimacy, acceptance, surveillance, monitoring and registration of landings.

Secondly, there are institutional reasons. Research has shown that the effect and power that the user-group will have in the decision-making process, largely depends on their ability to speak with one voice (Jentoft 1994:5). The example from St. Lucia has shown that the fishermen are as yet unequipped nor able to coordinate their strategies on the national level. In addition to this, there is also a lack of will on behalf of the Government to establish and devolve the rights and authorities to others. The fishery management system of St. Lucia seems - as in most other countries - to reflect the broader institutional patterns and practices that prevail on the national level (Jentoft & McCay 1995:236). In St. Lucia these patterns and practices seems to be rather paternalistic and centralistic.

Successful stories of resource management throughout the world are usually the result of many years of gradual institutional change by tuning social, political and economic actions in accordance to the specific requirements of the natural resource. External appropriators, demographic changes, expanding markets and improved technologies, will always be a threat to the existing management system, to which the system has to adapt. A balance between institutional stability and institutional flexibility must be found. In the St. Lucian context this is an argument for a more centralistic approach to co-management, where user-group participation on the national level should be established, before or at the same time as the development of local institutions and management scemes. So far there is very little to decentralize in the St. Lucian fisheries, no bodies to decentralize to, and little will on

behalf of the Government to decentralize management authority. Institutionalized cooperation between the government and the industry is in progress though, as of recent times. The building of democratic bodies for user-group participation on the national and local level are not mutually exclusive, but complementary, and can go hand in hand. However, the most realistic path to increased user-group involvement in St. Lucian fisheries is to start by forming a national fishermen's organization.

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