

**Status of Artisanal Fisheries in the
British Virgin Islands:
Problems of Development**

R. WALTERS
Fisheries Division
Department of Agriculture
Ministry of Natural Resources and Environment
Government Headquarters
British Virgin Islands

The artisanal fisheries of the British Virgin Islands (BVI) share a similar history with many of the other neighboring Caribbean island communities. The Carib Indians were the pioneers in not only the harvesting of many of the edible species of our ichthyofauna, but also pioneers in many of the current harvesting methods that we use (Price, 1966). The evolution and/or development of fisheries in the BVI has, however, been a very slow process, because of both the marketing conditions and the efficiency of the fishing gears used. Some of the noticeable changes that exist today include the change from an exclusively subsistence fishery to a predominantly commercial fishery, the refinement of many of the traditional fishing techniques and implements, and the introduction of a few new ones.

This paper is an attempt to describe the present status of the artisanal fisheries of the BVI, identify what we perceive as the major problems of development and highlight some of the reasons for those problems. The discussion will also include some of the strategies and corrective measures that we are employing to overcome some of the problems that are mentioned.

Description of Fishery.--The area of the BVI's portion of the geologic platform that it shares with the USVI and Puerto Rico is 3,133 km². More than 90% of the fishing that occurs on that platform or shelf is concentrated in depths of 35 fathoms and less. There are at least a dozen families and over 40 shallow-water reef fish species involved in the commercial fisheries of the BVI. Approximately 180 commercial fishermen (more than 60% being part-timers), using fishtraps, handlines, beach seines, gill nets and spear guns, land approximately 1.4 million pounds of fish in the BVI in 1981-82. Additionally, an unknown number of USVI based fishermen engage in fishing in large areas of the BVI shelf; the catch figures from this part of fishery are unavailable. The catch data from another 150 pleasure and subsistence fishermen are also unavailable.

There are 120 boats involved in the commercial sector of the BVI's fisheries; more than 90% of these boats are less than 25 feet in length and powered by outboard gasoline engines. Very recently (1983) six 27-foot fiberglass boats with inboard diesel engines were added to the fishing fleet in order to exploit the deeper water stocks that have remained largely unexploited by BVI fishermen (Olsen, et al. 1974).

The most popular fishing gear in use is the fish trap which is constructed mainly from hexagonal galvanized chicken wire and

the introduction of a larger sized fishing vessel, and the introduction of certain fishing techniques and fishing equipment that were not previously employed in the local fisheries. The larger vessel that was introduced to the BVI fishermen is a 27-foot commercial work boat which is equipped with an inboard diesel engine, hydraulic hauler, radio, compass and an electronic depth recorder. There are presently six such vessels operating in the BVI and their introduction was intended to divert some of our fishermen away from the shallow water reef fishing in order to exploit the deeper water, better quality fish species that Rivas (1970) and Brownell (1971) claimed were available in commercially exploitable quantities along the shelf edges. To introduce fishermen to the techniques of bottom and vertical long line fishing, we enlisted the assistance of the neighboring USVI through its Fish and Wildlife Division; this assistance took the form of at sea demonstrations with local fishermen over a period of 2 weeks in October 1982. Very early in 1983 a series of seven 1-week onshore training courses in the basics of navigation, seamanship and small boat engine maintenance were conducted in the various fishing communities of the territory for members of those fishing communities. Those courses were funded by CIDA's Missions administered funds, Barbados. We have since secured a grant from CDB to continue the improvement of our fishermen's skills; in this area we are conducting regular practical fishing exercises with as many fishermen as possible, using the Fishing Company's carrier vessel which is rigged for deep-sea fishing. A very important reason for the foregoing activities is to increase the landing of high quality local fish to displace the supplies that are currently being imported.

Fisheries Legislation.--The Fisheries Ordinance and the complementary Fisheries Rules give the minister responsible for fisheries the authority to control the taking of certain marine products by reference to size, weight and season; he is also authorized to issue licenses to persons to operate fishing vessels and fish and also limit the types and quantities of marine products that may be taken in the territory's Exclusive Fisheries Zone (EFZ). The UK and the US have a Reciprocal Fisheries Treaty that allows a specified number of each others' territorial fishermen to engage in fishing activities in a specifically defined area of their respective EFZ's.

Current Problems and Development.--Some of the major factors that are presently affecting the development of artisanal fisheries in the BVI are: (1) The increase in the number of lost (ghost) fish traps that become separated from their buoys annually as the pleasure boating industry continues to expand, (2) The decline in the number and quality of nurseries and other habitats that are important to fisheries as marinas and other coastal developments increase, (3) The slowness on the part of most fishermen to reduce their efforts in shallow water trap fishing and engage in deep water fishing techniques, especially if staying out overnight and venturing beyond the sight of land is necessary, (4) The persistence of the fish trap molesters,

wooden sticks; the beach seine is the next most frequently used fishing implement. The advent of SCUBA has also added a new facet to the scenario of fishing in the BVI, but this has remained largely a pleasure or subsistence fishing device.

Although a definite seasonality can be noticed in the Serranid family and in some of the inshore pelagic species, there is no pronounced seasonality among the bulk of the shallow-water reef fish species that dominate the artisanal fisheries. Instead, noticeable increases and decreases in fish landings are functions more of weather and market conditions. In response to the market conditions, fishermen may lift their traps less frequently or bait them heavily and lift them more frequently; fewer new traps are placed in the water during the hurricane season and this too has some effect on how much fish is sometimes available.

Marketing.--Fish marketing in the past was done mostly by individual fishermen either at the landing sites, from the back of vehicles that were driven about the countryside, or to middle men who in turn resold fish usually in the neighboring U.S. territory. Very recently (May 1983) the BVI Government opened a fish marketing depot to regularize the trade in fish and fish products, because in spite of the occasional gluts in some coastal areas and the regular exports to the neighboring USVI, pockets of scarcity and even losses through spoilages persisted. Some fishermen even tailored their efforts to satisfy preferred customers or selected areas when the marketing of their catch was solely their responsibility.

The fish marketing depot has so far eliminated both the problems of spoilage during gluts and the occasional scarcity of fish in some locales of the territory, but there is still a modest fish import business that caters mainly to the tourist industry and members of the expatriate community. Fish imports have become necessary because of the unavailability of an adequate supply of high quality fish (snappers, groupers, etc.) locally and also because of the occasional appearance of ciguatoxic species in local commercial catches. The marketing of spiny lobsters, which are still caught mainly in the same fish traps with reef fish, and the queen conch, which is harvested mainly by free diving, is very closely associated with the volume of visitors in the BVI at a given time. It sometimes becomes necessary to import supplies of these two fisheries products.

Fisheries Development.--As part of the territory's overall Fisheries Development Strategy, the BVI Government established a Division of Fisheries, within the Ministry of Natural Resources and Environment with technical assistance from FAO. The establishment of the BVI Fishing Company to operate the recently opened, CDB funded, fish depot also occurred around the same time (1980).

These two actions, plus the passage of the Fisheries Ordinance of 1979, were the three most important developments in the artisanal fisheries of the BVI in recent times. Since then these have been followed by the introduction of fisheries regulations,

(5) The incidence of ciguatera in some of the commercially important fish species, (6) The increase in the level of fishing in our EFZ by foreign based fishing vessels, and (7) A shortage of trained manpower and equipment to execute the management provisions of our Fisheries Legislation.

Strategies Aimed at Overcoming the Problems.--In order to curb/arrest the alarming increases in fish trap buoy separation and other practices that degrade the coastal marine habitats that are important to fisheries development, the major thrust has been a joint BVI-Eastern Caribbean Natural Areas Management Programme (ECNAMP) project to identify and develop a system of Marine Parks and Protected Areas. Some of the aims of that project are to select areas of critical importance to fisheries and also separate conflicts of uses in these areas.

We are attempting to address the fish trap larceny problem by making provisions in the Fisheries Rules for a number of active fishermen to be appointed as "Fisheries Inspectors" with powers to search and seize violators of the Fisheries Rules. All registered fishermen will also be required to affix their registration numbers on their fishing gear at sea.

In order to realize our goal of displacing fish imports by locally produced fish supplies, we are currently planning to concentrate our efforts on the owners of the newly acquired work boats, using them as the core of our deep-sea fishing venture.

Because of our present shortcomings in the areas of manpower and equipment, we have cooperated with neighboring countries - mainly the USVI - on measures to curb foreign fishing in our EFZ and also in unraveling the ciguatera puzzle.

Conclusion.--The status of the artisanal fisheries of the BVI is at a very important phase in its development. The dearth of information that may become crucial to the future viability needs urgent attention. Although this paper tried to relate some of the local efforts that are underway to remedy the situation, this writer feels that a greater sharing of information, plus a greater personal interaction among personnel involved in the administration of fisheries at the regional level, can expedite and in many cases complement the developmental efforts of all concerned.

LITERATURE CITED

- Brownell, W.N. 1971. Fisheries of the Virgin Islands. Comm. Fish. Rev. 33 (11-12):23-30.
- Olsen, D.A., A.E. Damman and Don Neal. 1974. A vertical long line for red snapper fishing, Mar. Fish. Rev. 36: 7-9.
- Price, R. 1966. Caribbean fishing and fishermen: An historical sketch. Amer. Anthropol. 6, 68: 1363-1383.
- Rivas, L.R. 1970. Snappers of the western Atlantic. Comm. Fish. Rev. 32(1): 41-44.