

ABSTRACT

Currently Suriname's marine fisheries is concentrated on the commercial exploitation of the Penaeid shrimp in the offshore fishing ground. Shrimp landings were 3,240 tons of head-off shrimp with an export value of Sf 64.4 million in 1979. However, because the marine fishery is unregulated, effort and catch may not be at the economic optimum with the consequence that rent may not be at the optimum. This was the first problem identified. Two other problems arising from trawl shrimping are the discarding of by-catch fish and destruction of the marine fishery stock in the inshore fishing ground. The fourth problem considered was the under-utilization of the bottomfish stock.

This research was aimed at evaluating the level of benefits which may accrue to the economy of Suriname from improved management of the fishery, by primarily improving exploitative practices. Strategies were developed and the economic impact of applying these to the economy of Suriname was evaluated using benefit-cost analysis. The strategies are: (1) optimization of shrimping effort; (2) by-catch fish landing; (3) zoning and (4) inshore bottom fishing.

A Schaefer linear surplus-yield model estimated the maximum sustainable yield for the Penaeid shrimp to be 4.078 million kilograms head-off shrimp, while with a bio-economic model, the economic optimum yield was estimated at 3.74 million kilograms head-off shrimp corresponding with an optimum catch effort corresponding to 210 72-foot shrimp trawlers (1979).

The set of strategies evaluated was found to be economically feasible and expected to have an important economic impact on the economy. The main benefit of the strategies is the additional quantity of fish to be landed, estimated at 38,844 tons while no change is envisaged in shrimp landing. The net aggregate present value of benefits was estimated at Sf 184.29 million. In addition, 300 employment opportunities were expected to be created.