

# Fisheries Development in Costa Rica

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Costa Rican fisheries production has decreased substantially since 1979 (Fig. 1) and will probably continue to do so unless drastic actions are taken soon.

This situation is not unique to Costa Rica. Worldwide, the growth rate of fisheries production has decreased by approximately 3%. Marine products now contribute only 1% to world food consumption and postharvest losses due to poor manipulation account for 25% of the processed fish production.

Several options could be considered in managing a fishery: reduce the fishing

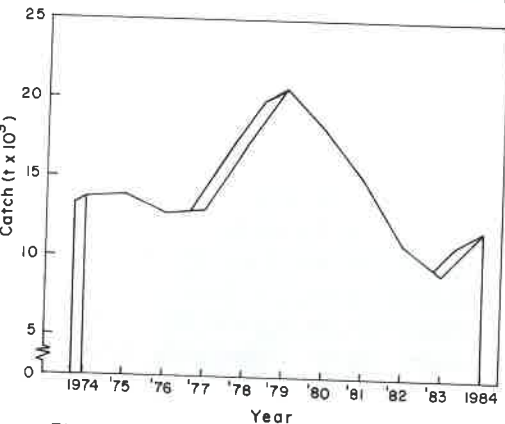


Fig. 1. Nominal catches of fishery products from Costa Rica, 1974 to 1984 (from FAO Yearbook of Fishery Statistics 1984).

effort, restrict the number of fishing permits, decree geographic or temporal fishing prohibitions, strictly control the use of fishing gear, reduce postharvest losses and the environmental impact which may adversely affect a particular stage of the life history of a marine species. These are all possible solutions to a complex problem of renewing the vitality of marine resources. However, usually any or all of these solutions are difficult to implement.

Data on commercial fish catch landings in Costa Rica have been available for the past ten years. Incomplete data on effort, length and weight of over 100 commercially exploited species are also available. These data are in the process

of being utilized for a gross assessment of the past and present status of the fishery.

Once this first study is completed, options for the management of the fishery should be classified and priorities determined. The immediate goal is the development of the fisheries sector, as stated in several governmental policy statements. This can be understood as a better economic input for the fisheries sector and for society as a whole. At least two options would permit fisheries development:

1. *No increase in production.* Here, a reduction of postharvest losses due to poor manipulation of products, use of bycatch, an increase in sanitary standards and reduction in the cost of operation become important.
2. *With an increase in production.* Here, possibilities for an increase in fishing effort, exploitation of new resources and culture of aquatic organisms should be evaluated.

On a time scale, the main objective of a management scheme is to move into a stage of development which can be achieved in the short, medium or long run. Ideally this stage will be beneficial for both the fisheries sector and the resource itself. However, if all key elements that influence the complex decision process are not considered, development could result in an unstable situation characterized by: a) overexploitation of the resources, b) overcapitalization in the fisheries sector and c) a reduction of the global financial input to society.

For example, the tendency to develop the artisanal fishery activity in Costa Rica is based on the oversimplified fact that artisanal fisheries are technologically simple, and their impact upon the system

will be less detrimental than a fishery at the industrial level. However, in coastal waters with high diversity of species, low abundances, high risk of human disturbances and increasing habitat modification, the fishing effort of a populous and growing artisanal fleet (Fig. 2) could be over the maximum that a limited marine ecosystem can support. The resources and the economy may well be severely affected.

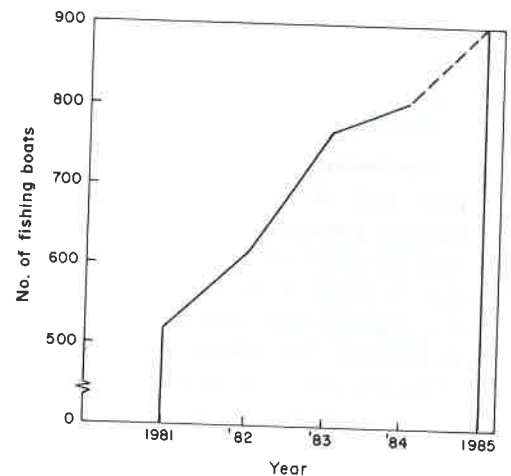


Fig. 2. Number of artisanal fishing boats in operation in Costa Rica from 1981 to 1985.

Development should not be translated as an increase in effort, or increase in the number of fishing boats or increase in capture as is many times the case when fisheries are domestically used as political platforms and management is directed almost exclusively towards the relief of social pressures.

Rather, a primary assessment should be the guiding criterion to determine possibilities of growth for the fishery. If development should be understood as growth, it ought to be consonant with resource abundance. Several forces such as those that regulate the dynamic process of change within a fisheries (e.g., growth, decline) will in time modify such growth and dictate the final state of affairs.