1. INTRODUCTION

No real inshore or open-water fisheries policy has been laid down for the Sixth Plan. Nevertheless, the rational management of marine resources is a matter of world-wide concern.

Her geographical situation being what it is, and surrounded as she is by a lagoon, New Caledonia cannot be unaware of her potential in this respect. Further, a "fisheries industry" should be one of the determining factors in diversifying New Caledonia's economic activities.

Before the end of the Sixth Plan, open-water tuna fishing and aquaculture will have their place in the Territory's economic activities. For the first, 25 to 30 long-line boats (production 5,000 metric tons in 1975) will be operating from Noumea; as for the second, experiments, particularly with shrimp, should gradually lead to production on a semi-industrial scale.

2. The alternatives selected

The factors conducive to the rational exploitation of marine resources in New Caledonia, or through operations based in this Territory, may be summed up as follows:-
(1) New Caledonia is situated in the centre of a zone covering the part of the Pacific between New Guinea in the North, New Zealand in the South, Australia to the West and the international date-line to the East. Tuna stocks within this perimeter are as yet under-exploited;

(2) the selling price of tuna is rising, and there is an ever increasing demand for this fish throughout the world;

(3) the broad expanse of the New Caledonian lagoon contains an unexploited stock of small fish species that can be used for live-bait tuna fishery; and

(4) the hydrological, thermal and biological quality of the lagoon waters is such that all the basic requirements are present for diversified aquaculture activities.

However, certain unfavourable aspects are to be taken into account: high-cost labour with no fishing tradition, remoteness of major processing and marketing centres, lack of basic information on lagoon fauna, and the fact that sites suitable for aquaculture are often private property.

With these factors in mind, one may decide on two main objectives for the Seventh Plan:—

(1) developing a tuna fishing industry; and

(2) carrying out aquaculture on a semi-industrial scale.

**Objective 1 - Tuna fishing industry**

In setting up a tuna fishing industry, one should take into account:—

markets;
catch levels of the various species; and fishing techniques used.
Although at present there are no EEC quotas nor taxes on raw frozen tuna produced by non-member countries, New Caledonia fishing bases should still seek markets in countries bordering the Pacific, particularly Japan and the U.S.A. The catch levels of the various species will necessarily determine the extent of the base's cold-storage facilities, as well as the possibilities of setting up a processing industry (canning factory, by-products processing, etc.).

At present, only traditional Pacific techniques (long-line) can be relied on to operate a commercial fishing base. However, one may justifiably expect better results from the development of purse seining and live-bait techniques.

On the basis of experiments carried out using these two techniques, one may establish minimum and maximum objectives.

1 - Minimum prospects for 1980

**Long-line fishery**

Number of ships = 140 to 160 : annual production = 30,000 tons. \(^{(1)}\)

**Live-bait fishery**

Live-bait stocks not exploitable - skipjack stock not exploitable: production = nil.

**Purse seining**

Technique cannot be developed owing to lack of thermocline: production = nil.

Number of bases = 2 - cold-storage capacity = 20,000 m\(^3\) in all.

2 - Maximum prospects for 1980

**Long-line fishery**

Number of ships = 140 to 160 : annual production = 30,000 tons.

**Live-bait fishery** - (French ships exclusively)

Number of ships = 7 to 10 : annual production = 5 to 7,000 tons.

**Purse seining** - (preferably with French ships)

Number of ships = 10 : annual production = 30 to 40,000 tons.

Number of bases = 2 - cold-storage capacity = 30,000 m\(^3\).

Cannery with a processing capacity of 15,000 tons/year.

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\(^{(1)}\) All tons mentioned in this paper are metric tons.
In 1980, the minimum port facilities should consist of 240 m of wharf for ships with a draught of 6 metres, a hauling-slip of 80 metres, or a floating dock of equivalent capacity.

Objective 2 - Aquaculture

Aquaculture consists of applying knowledge of techniques involved in the art of rearing aquatic animals and plants.

In 1971, following recommendations made by FAO experts, the Territory initiated, in co-operation with the South Pacific Islands Fisheries Development Agency, aquaculture experiments involving mainly sea shrimps and herbivorous fish.

Initial results would indicate that there is vast potential for developing shrimp-farming in New Caledonia.

Before production on a semi-industrial scale can be contemplated three important problems, concerning aquaculture in general, must be solved:-

1 - the production of juveniles and the successful development of post-larval rearing techniques;

2 - developing foods for maintenance; and

3 - finding suitable sites.

1 - The production of juveniles and development of post-larval farming techniques

The Pacific Centre for Ocean Development (CNEXO), using specimens caught in New Caledonia, has now solved all the technical problems involved in the reproduction and rearing of "merguensis" shrimps (banana prawn), and is in a position to gradually supply juveniles to a Caledonian farm. Post-larval stages however, are to be reared in New Caledonia itself, so as to obviate the hazards of air transport.

In respect of other shellfish (lobsters), molluscs (oysters) and fish, reproduction problems have not been studied. Tests on painted lobsters and local species of oysters should be carried out throughout the period of the Seventh Plan.
2 - Developing foods for maintenance

Although the problem of feeding the farmed shrimp should be considered technically speaking as settled, the very high cost of manufacturing the food is a serious obstacle to the development of shrimp-farming.

The only way to reduce the cost and render such a "culture" economically viable is to use animal and vegetable by-products in a rational manner, unless shrimping no longer meets the growing world demand, which would bring about an increase in the selling price.

In any case, such a problem does not seem likely to arise where painted lobster and oyster-farming are concerned, as lobsters thrive on natural food, while oysters find enough food for maintenance in sea water.

3 - Finding suitable sites

There are many sites along the coast of the mainland which are suitable for aquaculture development. These should be surveyed and officially set apart for specified activities.

OBJECTIVE

Shrimp-farming

During an initial phase, shrimp-farming should be geared to the needs of local consumption, feelers being put out to assess possibilities in outside markets.

The 1980 programme cannot involve more than 100 tons.

Oyster-farming

The scope of New Caledonia oyster farming has to be limited to the local market. Three or four well managed farms should be able to ensure a production of 200 to 250 tons in 1980.

Lobster-farming

Studies and experimental breeding operations should be carried out so that, before the end of the Seventh Plan, the possibilities of economic lobster production are well known.
ARTISANAL FISHERY

I - General

Artisanal fishing is carried out in lagoon waters by a fleet of about 130 boats. Of these, only about forty operate on a truly professional scale.

Most of these ships are fairly old (average 10 years); only a few of them were built less than two years ago.

This activity is not always carried along well-organized lines, and the market for fish is hard hit by competition from pleasure boats.

II - Marketing

Marketing is largely carried out by co-operatives such as the:

1. Groupement d'intérêt économique; and the
2. Coopérative des pêcheurs.

But some fishermen have stalls in the Noumea market and carry out their own selling operations.

Finally, certain dealers sell fish supplied by pedlars who buy it outside Noumea.

III - Prospects

There does not seem to be any likelihood that artisanal fishery will develop in the years to come. It will probably remain very artisanal and independent in character.

However, it is desirable that the professional fleet be renovated during the period of the Seventh Plan.

In order to encourage this, there should be a fisheries incentive scheme, providing for subsidies of the order of 50%, with the proviso that a type of boat suited to local fishing conditions be determined.

At the same time, it is desirable to limit the number of professional fishermen, as well as the fishing effort of owners of pleasure boats.