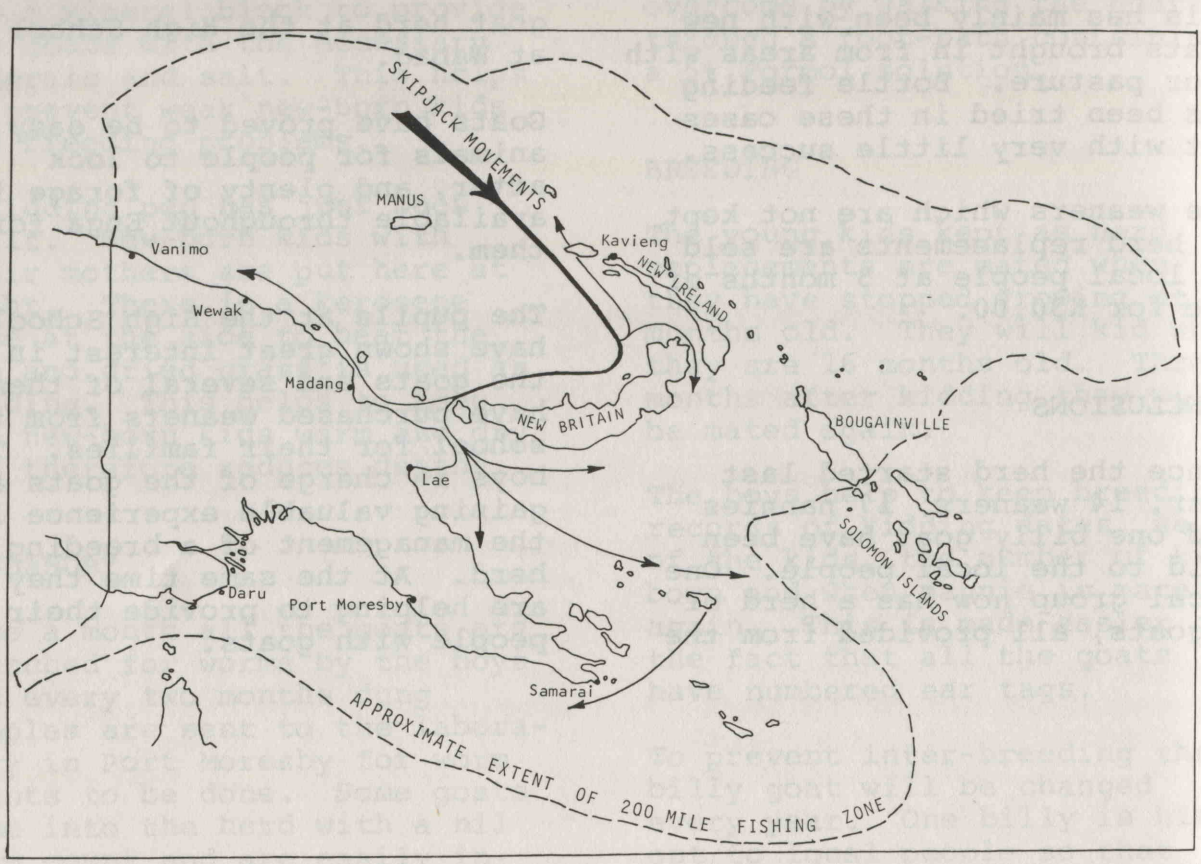
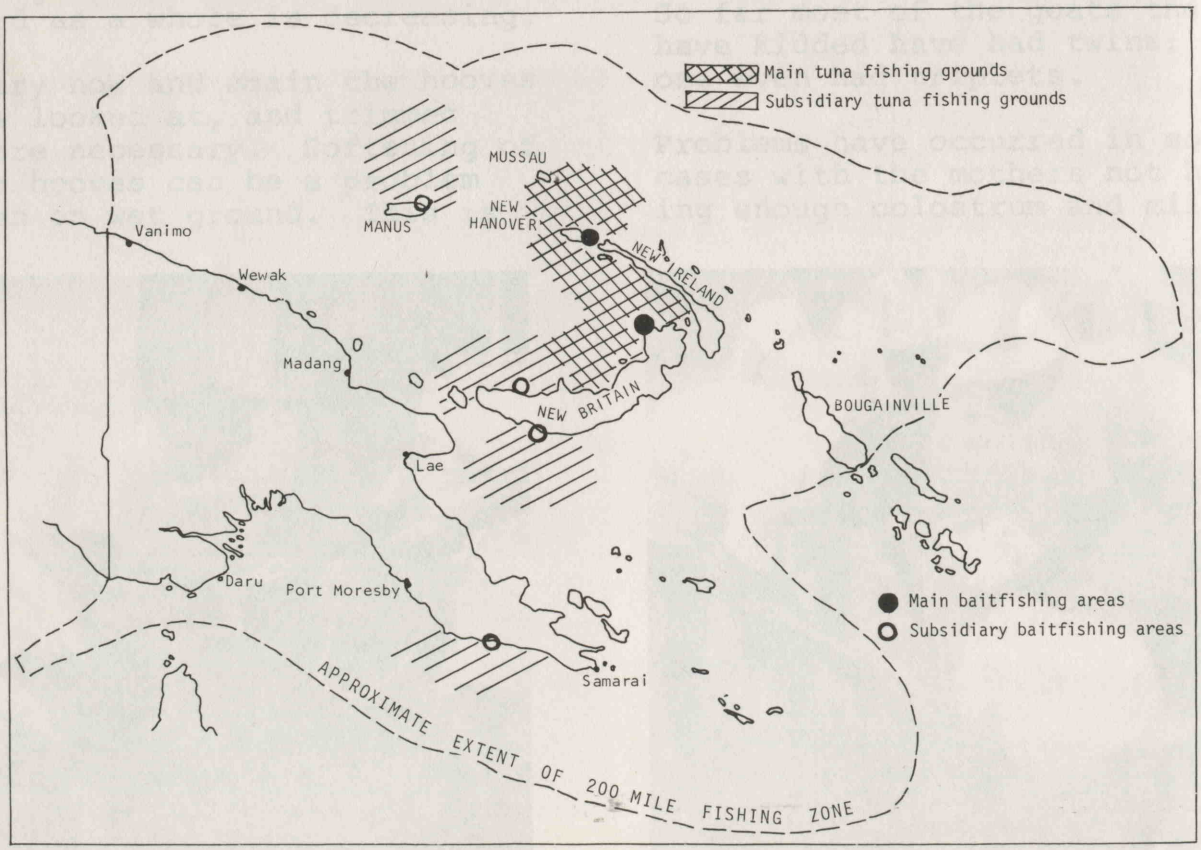


Skipjack tuna migration patterns in Papua New Guinea waters



The main tuna fishing grounds and baitfishing areas in Papua New Guinea waters

PAPUA NEW GUINEA'S TUNA FISHERY IN 1982

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INTRODUCTION

In recent months there has been much discussion about the status of Papua New Guinea's domestic tuna fishery. It has been correctly reported in the press that the Kavieng-based fishery will not operate in 1982. This means that Papua New Guinea has temporarily lost one of its most important export industries. It will cause unemployment for at least 900 Papua New Guinean fisherman, and others employed by the two fishing companies.

In addition, the country will lose about K20 million in foreign exchange. The national government and the East New Britain Provincial Government will lose between K2 million and K3 million in tax. Also, village people who live where the baitfish are caught will not receive baitfish royalty payments (payment for fish taken out of their traditional waters) of about K0.5 million in 1982.

The purpose of this article is to try to explain some of the very complicated factors that forced the pole and line tuna fishery to close early in 1982.

The article first describes the industry. It then analyses the 1982 situation. It then discusses the action which is being taken internationally to equalise supply and demand.

Finally, conclusions are drawn about the industry's future in Papua New Guinea.

THE TUNA FISHING INDUSTRY

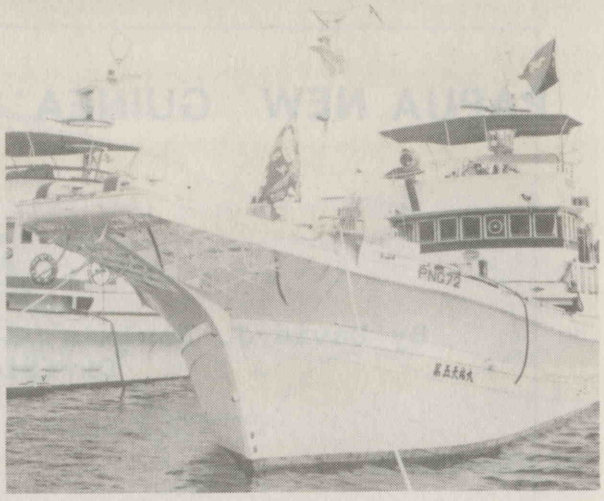
Papua New Guinea's pole and line tuna fishery started operations in 1970. This followed research findings which showed that that the waters surrounding Papua New Guinea contained stocks of tuna and baitfish which could support commercial fishing operations. Since the fishery began, most fishing activity has been based around New Hanover in the New Ireland Province and Cape Lambert in the East New Britain Province. This is for two reasons:

- There are reliable supplies of suitable baitfish in these areas.
- It is possible to fish for tuna all year round.

Other areas of Papua New Guinea are also known to have good baitfish grounds. These areas are not fished either because of political problems or because tuna is present only at certain times of the year.

The areas where good baitfish grounds are known to exist, and the main migration patterns within Papua New Guinea waters are shown in the maps on the opposite page.

Fishing for tuna using the pole-and-line method



A catcher boat

Taking in a catch of baitfish

The pole and line method of catching tuna depends on the use of live baitfish. Baitfish is needed to attract tuna close to the catcher boat.

Whilst fishing, fishermen stand around the bow and stern and hook the tuna with a fishing pole which has a barbless hook attached to it by a short line. After a fish is hooked, the fisherman flicks it over his shoulder onto the boat. He then throws his line back into the water.

After the tuna is caught it is transferred each day to a large mothership which is anchored close to the baiting grounds. The tuna is stored on the mothership until it is transported to destinations overseas where it is canned.

Initially, all fishermen employed on the catcher boats were from Okinawa in Japan, or from Korea. Now, an increasing number of Papua New Guineans are learning the necessary fishing skills. Each catcher boat employs about 24 people. Around half of these are now Papua New Guineans.

Tuna being transferred on a conveyor belt from a catcher boat to the mothership

Each year about 40 catcher boats operate in the domestic tuna fishery. The total catch of these boats varies from year to year. Fishermen claim that good fishing years alternate with bad fishing years. The highest total catch taken in the fishery was in 1978 (49 000 tonnes). In 1981 only 24 000 tonnes were landed.

In 1980 one of the fishing companies introduced a new method of fishing to Papua New Guinea. The method is called purse-seining. It does not require live baitfish and it uses more complicated equipment than pole and line operations. In future it is expected that purse seining will become more common in the domestic tuna fishery, because it is a more efficient method of fishing than the pole and line method. As a result, production costs are lower.

Each year the Papua New Guinean pole and line fishing boats produce about 2% of the world's total production of skipjack tuna. Most of the catch goes to the United States, 16% to Japan and 4% to other countries.

The United States is the world's largest market for canned tuna. About 60% of all tuna canned in the world is consumed there. Thus, Papua New Guinea is very dependent on the United States market for the sale of its catch. When that market is depressed, the fishing industry in Papua New Guinea is directly affected.

When the world market price for tuna is low, Papua New Guinea can do little to change the situation, because only a very small percentage of the world tuna production comes from this country. Papua New Guinea has to take whatever prices are offered, however low.

An important part of the tuna fishery is obtaining baitfish. Baitfish royalties are paid by the fishing companies to the people who own the baitfish in return for being able to catch and use the bait. These royalty payments provide a cash income for people who otherwise would have no productive use for the baitfish.

The baitfish royalty payment is set at 2½% of the value of tuna exports. On average, royalty payments made to village people each year have been about K0.5 million.

During 1981 there were two companies based in Papua New Guinea fishing for tuna. They were Star-Kist (PNG) Pty Ltd. (parent company from the United

States) and New Britain Fishing Industries Pty Ltd (parent company from Japan). Both companies have their headquarters in Rabaul.

THE SITUATION IN 1982

In early 1982 Star-Kist and New Britain Fishing Industries indicated that they would not start fishing operations in February as they usually do each year. The companies informed the government that as the world tuna market is very depressed, they would only be able to sell at extremely low prices. At these low prices neither the fishermen nor the companies would be able to cover production costs. They would therefore lose money. The companies decided that the best thing to do, from a financial point of view, would be not to fish in 1982. Their boats would be left un-used until market conditions got better.

To understand the reasons causing the present depression in the world tuna market, we will discuss the two things which determine price: supply and demand. The problem is that world tuna supplies are greater than world tuna demand at the moment.

Supply

Production of skipjack and yellowfin tuna has been rising fast over recent years. Most of the increased production has been coming from the Western Pacific Ocean where stocks of tuna are very high. Most of the vessels fishing there are from the United States, Japan and the Philippines.

The extra tuna being fished is mainly for canning. However, the demand for canned tuna has not risen so fast. This has lead to an excess of supply.

Demand

Although the demand for canned tuna is rising in Europe and Japan, it has been levelling off in the United States, the world's most important market.

Several things have contributed to the slow growth in the United States.

1. The United States is at present in an economic recession and many workers are unemployed. Because of rising prices people cannot buy as much as they could before. As canned tuna is a high value product people are reducing their consumption of it, and are buying cheaper foods instead.

2. The prices of foods such as poultry and hamburger meat, which people can use instead of tuna, are very low compared to canned tuna. In fact production costs have gone down over recent years because of increased production efficiency in the poultry and grain industries of the United States. So these products have become more attractive from the point of view of price.

3. The tuna canning companies have been trying to reduce their stocks of canned tuna. The reason for this is that it has become too expensive to hold canned products ready for sale. By selling their stocks, they have increased the supply of tuna on the market. At the same time the demand by canners for current production of tuna has gone down.

WHAT CAN BE DONE?

Action is being taken in the United States to try to solve the problems facing the world tuna market, and to try to equalise supply and demand. The action taken includes:

1. Reducing the number of fishing trips made in 1982, by American vessels, and so reducing the supply of tuna. The effectiveness of this action will depend on other fishing nations adopting the same measures.

2. Temporary closing down or reducing the output of United States canneries. Workers are helping the companies by working for fewer hours and agreeing not to have pay increases until the market improves.

By reducing the supply of fish to the canneries and by canneries reducing production, it is hoped to speed up an improvement in the United States tuna market. Indirectly this will benefit the industry in Papua New Guinea.

THE FUTURE OF PAPUA NEW GUINEA'S TUNA FISHERY

Although Papua New Guinea is in a very good position to fish for tuna, the costs involved in our fishery are high compared to other countries.

One way to reduce production costs is for the government to remove taxes on industrial inputs such as fuel. The government could also remove export tax on tuna when export prices fall equal to or below production costs. This system is already used for export crops such as palm oil, copra, coffee and cocoa.

Papua New Guinea needs to try to sell its tuna to countries other than the United States. Europe, especially France, Italy and Spain, is a major market for tuna, and generally higher prices are obtained than in the United States. It is therefore important to develop market outlets in Europe so that the fishery does not depend so much on the United States.

A catch of tuna

CONCLUSION

As with all commodities, prices in the tuna industry move up and down. Based on past trends, tuna prices can be expected to be depressed every 3 or 4 years. However, the depression of prices in 1982 is worse than usual because it has come at the same time as the recession in the United States.

Market commentators are not sure when or by how much, tuna prices will recover. Some people believe that the lowest prices have been reached, and that prices will improve before the end of 1982. Recent price movements indicate that this is likely to be the case.

As economic conditions improve in the United States, the demand for tuna should also improve. Tuna is a preferred food in the United States, so consumers are expected to switch back to it despite competition from cheaper foods.

Experts in economics do not agree about when economic recovery in the United States will take place. However, there are indications that some recovery is expected by late 1982 and early 1983.

Because Papua New Guinea is part of the international tuna industry, recovery here will depend on international events - especially in the United States. As a small world producer, there is little Papua New Guinea can do to speed up the recovery of the industry. However, we should realise that the presence of tuna in Papua New Guinea's water is not enough on its own to guarantee a domestic fishery in future. Production costs must be considered so that tuna produced within Papua New Guinea by the domestic fleet costs less compared with tuna from other countries.

FURTHER READING

Dalzell, P.J. (1980). Baitfish research in New Ireland. *Harvest* 6(3): 109-116.

Wankowski, J.W.J. (1979). The Papua New Guinea pole-and-line tuna fishery. *Harvest* 5(2): 109-188.

Wankowski, J.W.J. (1979). The Japanese purse seine tuna fishery. *Harvest* 5(3): 140-151.

Wankowski, J.W.J. (1980). Management of the New Ireland bait fishery. *Harvest* 6(3): 117-123.