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CONSULTANT SUMMARY REPORT/GEORGE/LOBSTERS

Report on Rock Lobsters

by

Dr. A.W. George

Dr. A.W. George (Australia) was appointed for a six months' period as a consultant on rock lobsters and completed his work in April 1971. He visited Fiji, Western Samoa, American Samoa, Tonga, Territories of Papua and New Guinea, British Solomon Islands Protectorate, New Hebrides, French Polynesia and Cook Islands. Dr. George's report is being processed in FAO. A summary of his observations is given below and a formulation of a follow-up project arising therefrom is attached.

SUMMARY OF DR. GEORGE'S REPORT

Resources: The rock lobsters encountered in the South Pacific all belong to the genus Panulirus. There are five species which have been identified: Panulirus penicillatus, P. ornatus, P. longipes femoristriga, P. versicolor and P. homarus. Of these the first two species, P. penicillatus and P. ornatus, appear to be the basis of the current commercial fishery. P. penicillatus and P. longipes femoristriga occur in oceanic environment, i.e. outer reef edges or channels which are subjected to strong current. P. penicillatus is widespread throughout the Indian and Pacific Oceans while P. ornatus is abundant in the Gulf of Papua, but is known in Fiji and New Caledonia. The other species appear to occur in shallower waters, among coral heads and inside lagoons. P. penicillatus and P. longipes femoristriga enter baited traps while the P. ornatus does not. The fishery in general appears to be under-exploited in most of the areas.

Production: Compared with those of Australia and New Zealand, the production of rock lobsters in the South Pacific is very small. The industry at Yule Is., Papua, reported a yearly production of 11 000 to 41 000 lobsters while Tonga produced about 1 ton of frozen tails per month. British Solomon Islands Protectorate (BSIP) produced about 2 tons of lobsters per month. Production in New Caledonia was about 10 tons in 1968, 8 tons being on the west coast and 2 tons on the south and east coasts.

Fishing techniques: The most generally adopted method is the manual one, using lights and either hands or a spear. The use of a spear is not satisfactory as the market demands live lobsters. Traps have been tried in Fiji, Western and American Samoa with very limited success. The traditional Funaki, a beehive-shaped pot made of vines, with an opening at the top, is used with sea urchin as bait in Tonga and vine loops to which the lobsters cling are used

in BSIP and these are more efficient than hand catching or spearing. Very few records of catch and effort data are available.

Possible new grounds: Areas with deep trenches and strong water currents favour the occurrence of P. penicillatus, P. longipes femoristriga and P. ornatus. Rainfall should be low and tidal regime conducive to deep waters such as exist south of Solomon Islands, New Hebrides and Loyalty Islands.

RECOMMENDATIONS

1. For Local Government Authorities

Transport facilities from producing areas to consumer centres should be improved.

Retention of fishing regulations related to ensuring:

- (a) top quality product to the market (e.g. ban spearing if no freezing facilities are available and the processing of dead rock lobsters);
- (b) acceptable table size (e.g. legal minimum carapace length of 2 3/4 inches (70 mm)).

The need for regulations concerning a closed season for the protection of spawning females should be re-examined.

The introduction of collection of catch and effort statistics and basic biological data (i.e. sex, carapace length and reproductive state - berried females) for future evaluation is considered essential.

Fishing rights relating to reefs and offshore waters should be clarified (e.g. Hebrides).

2. For International Aid Organizations

Research aimed to investigate some biological aspects of the life history of Panulirus penicillatus, in particular studies on the reproductive cycle, size, composition, sex ratio, weight-length relationship, growth rate, horizontal and vertical distribution and inshore-offshore movements, should be initiated. A project of this nature would be best sited at Fiji where a wide variety of marine habitats exist, and actual or potential fisheries at Tonga, British Solomons and New Hebrides are in proximity. The project should attempt to introduce reliable catch and effort statistics, which will lead to a preliminary evaluation of the resource and thus advise on future management. Parallel to the above, trials to improve existing fishing techniques should be included in the work programme. A period of two years is required for the implementation of such an investigation.