

TITLE

Design, construction and demonstration of low energy fishing vessels for Island Communities.

RECIPIENT COUNTRIES

5-6 Island groups in the South Pacific - choice amongst the following - Cook Islands, Fiji, Kirabasi, Papua New Guinea, Samoas, Solomon Islands, Tonga, Tuvalu and Vanvatu.

PROVISIONAL COST

Donor contribution \$ 621,000

BACKGROUND AND JUSTIFICATION

The island communities of the South Pacific while sharing many similarities in their fisheries potential also have a considerable diversity in their operational requirements for fishing vessels. Some of these differences arise from the geographical structure of the island groups and their surrounding water masses, others by the seasonal migration of pelagic fish and still others due to differing economic and social structures of the various island communities. FAO and other aid agencies have been instrumental in introducing prototypes of various boats into island communities. Many of these attempts have not been successful due to insufficient follow up in relating the introduction of boats to other requirements of the fish catching, marketing and distribution chain and the socio-economic conditions of the community. In several other cases the introduction of a new boat has been successful, notably in a FAO Government Cooperative Programme project in the Samoas, where some hundreds of boats have been built. However in this case the successful craft were propelled by petrol powered outboard engines, which due to the rapidly escalating fuel costs (difficult to forecast at the time), which have occurred over a very short period are not economically viable in many other communities.

The basic need in light of these recent developments are simple, low energy consuming fishing vessels designed according to the needs of the individual island communities, which can provide a steady supply of good quality fish at a low expenditure of expensive foreign exchange linked fossil fuels.

Some potentially successful crafts using a combination of sail and simple diesel power are at present being evaluated in Tonga and may well indicate the path of development which should be followed in other island communities. However, in order to avoid failures due to the transfer of craft from one community to another without adaptation to local operational requirements, it is proposed to investigate the present requirements of the various island communities, design and construct up to four prototypes using various combinations of fishing method, sail/engine power configurations which would then be taken from island community to island community for demonstration fishing trials and local evaluation and modification. By this means it is expected that appropriate craft can be chosen for individual community requirements. At the same time assistance would be given to the appropriate government authorities to formulate community fisheries development schemes, for an integrated introduction of craft, fishing methods, catch handling, and marketing appropriate to the socio-economic situation of the community. Plans would be prepared for the financing of such integrated fishing community

projects within the framework of available UNDP funding or through bi or multilateral aid.

OBJECTIVES

Long and medium term objectives would be to create integrated community fisheries schemes within the islands for the catching, distribution and marketing of fish and fish products with linkages provided to all the necessary skills to build, operate and maintain craft and gear, distribution and marketing channels. Immediate objectives would be to demonstrate and evaluate appropriate low energy consuming fishing craft to the island communities, assist them with the choice of craft appropriate to their own individual requirements and provide the necessary planning for the introduction of craft within an integrated community development scheme.

WORK PLAN

The project would encompass four phases -

- (I) preparation
- (II) construction of prototypes
- (III) demonstration trials of craft in 5 islands groups
- (IV) evaluation and planning of follow up.

I Preparation

Would consist of consultant visits of one man/month of vessel and gear specialist consultants to the five island groups for identification of requirements plus 3 man/months for design preparation of 4 prototype craft according to findings. Total estimated time 9 man/months including design preparation and report.

Estimated cost including travel and DSA Total I \$ 55 000

II Construction of four prototypes

In the present boatbuilding yard at Nukualofa, Tonga. These prototypes would consist of at least 2 and probably 3 multihull sailing craft with auxiliary diesel power and one or 2 monohull sail/diesel powered small craft.

A construction supervisor to be provided for a total of 6 man/months for assistance to the boatyard in the construction of the prototypes and also in the preliminary sailing trials of the craft as completed.

Cost of construction of prototypes estimated at \$80,000 with a further \$ 40 000 for construction supervision and trials of craft.

Total II \$120,000.

III Demonstration trials

Completed craft to be shipped to each island group in turn for a full month of trials in each group with an experienced masterfisherman/skipper in charge of demonstrations.

Shipping costs of 4 prototypes on an estimated 160 m³ at \$ 75/m³ are estimated at \$60,000 for 5 island groups plus 24 man months of demonstration personnel at a cost of \$ 180,000 with a further \$ 50 000 for operating expenses and fishing gear.

Total III \$ 290,000

IV : Evaluation

At the completion of trials in the island groups conclusions on choice of appropriate craft and/or modifications to prototypes to bring them in line with local requirements to be completed. Specialist consultant(s) in the design of community fisheries development schemes, then to visit the islands to prepare project proposals either for UNDP funding through local IDF or for submission to bi or multi-lateral funding agencies.

Total time 4 man/months plus \$ 3 000 for final report preparation.

Total IV \$ 30 000

Total I - IV	\$ 495,000
Project Servicing Costs 14%	70,000
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	565,000
Contingencies & inflation factor	56,000
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Complete project cost say	621,000

N.B. For 3 months demonstration in each country, add \$ 150,000 to above total.