

SMALL BOATS FOR PACIFIC ISLANDERS  
A Perspective and Plan of Action

by

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I C L A R M

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## SMALL BOATS FOR PACIFIC ISLANDERS

### A Perspective and Plan of Action

The cultural heritage of the Pacific islanders is closely tied to the sea. They initially migrated across this vast ocean to all of the major island groups and later utilized their superbly constructed canoes for further travel over great distances between island groups.

The development of large sailing canoes, coupled with remarkable navigational skills and feats of seamanship, attest to the extraordinary mastery of the marine realm by Pacific peoples. Variations and refinements of the basic wooden hull sailing craft with outriggers and movable masts evolved in various island groups. All were extremely well adapted to the sea and wind conditions of the Pacific.

Many of these traditional crafts are still in use today in some of the more remote Pacific islands and a few old men still possess some of the navigational skills passed down through generations of mariners. Unfortunately, these traditional crafts are being abandoned by many of the islanders for a variety of manufactured boats, and the skills of boat construction, sailing and navigation that evolved over the centuries are being lost.

Any considerations of fishing craft designs for the Pacific islanders should certainly take into account their heritage in the sea and the craft which played such an important role in their migrations, and in their daily lives.

The Pacific was explored, settled, fought over and resettled by the Spanish, Portuguese, Dutch, British, French, Russians, Americans, and others during the past 400 years. Each introduced their own boats, marine technologies, and traditions. In recent years, foreign commercial fishing interests and international development agencies have come to the Pacific Islands; each organization seeking to introduce modifications, innovations, and refinements, in order to provide for the fishing craft needs of islanders. As a result, boats in the Pacific Islands are as varied today in design and construction as any place in the world, a fact which has not been to the benefit of islanders.

Unlike other areas of the world, there has not generally been a modification of the traditional canoe to the fishing craft frequently used today. Some canoes have been adapted to outboard motors but a more general trend has been a complete abandonment of the traditional hull and sail which is being replaced by a great variety of designs, construction materials, and propulsion systems from other areas of the world.

A notable example of an attempt to modify a traditional craft for present day use occurred in Western Samoa. Two canoe hulls were joined together with timbers, a plywood platform was

constructed, and an outboard motor attached to produce a modern version of the "alia" double canoe used by early polynesians in traveling great distances. This existing craft was utilized in Samoa for near-shore fishing, and was an attractive alternative to new construction.

In assessing the status of small boats utilized by Pacific islanders for their present-day fishing needs, one gets the impression that there has not been a gradual evolution from their traditional craft but rather that the islanders have acted in an entirely opportunistic manner in adopting boats to meet their needs.

Ideally, small boats and propulsion systems should be specially-designed and selected to meet the intended use patterns, the sea conditions of the region, and the economic and social needs of the local people.

In many areas of the world, technical innovations and modifications gradually changed the traditional design and construction of small fishing crafts. Those aspects of the prototype boat which were beneficial were incorporated with modern propulsion systems, materials, and fishing gear. For reasons not clearly understood, the Pacific islander has abandoned his traditional craft and substituted modern materials such as plywood, planks, aluminum, ferro-concrete, and fiberglass with a variety of hull designs ranging from modified Japanese sampans to Oregon dories. Power supplies for these crafts are

just as varied; high-technology outboard engines are being widely adopted, probably because of their high performance, compactness, and ease-of-operation.

Theoretically, an optimum hull design/propulsion system for each type of small-scale fishery operation in the Pacific could be utilized in achieving maximum efficiency and productivity. However, several factors -- including economic constraints -- prevent this. In addition, the best propulsion systems may be too technologically complex for efficient maintenance in some geographical regions.

An optimal hull design/propulsion system should at least be considered by the commercial enterprises and government agencies responsible for determining what equipment is made available for use by the small-scale fisheries of a given region. In the past, the choice of boats and propulsion systems was often restricted and related to availability from a number of local suppliers. Selection of their stock was probably based upon business considerations rather than on a conscious effort to provide the Pacific fisherman with a means of increasing his productivity while utilizing the most efficient system available.

Small boat construction and maintenance programs in the Pacific have been sponsored by several island governments and/or regional and international agencies.

These programs have been in addition to small-scale entrepreneurs (the island or village boat builders) who are probably responsible for building a majority of the boats used in the Pacific Islands today. In fact, many of the present-day island boat builders obtained training in such courses.

Noteworthy amongst boat-building courses in the Pacific was the government-subsidized School of Boat Building and Maintenance on Kwato Island in Papua, New Guinea which was held from 1930 to 1939. The School was conducted by Mr. Arthur N. Swinfield, an Australian naval architect who later published the two-volume "Boatbuilding Guide" in conjunction with the South Pacific Commission. This publication presents step-by-step instructions for the construction of a 26-foot multipurpose boat.

In 1960, a two-year course in boat building, repairs, and engine installation and maintenance began at Auki, Malaita in the Solomon Islands to train Pacific islanders. This endeavor was organized by the South Pacific Commission in cooperation with the United Nations Bureau of Technical Assistance, and the Government of the British Solomon Islands Protectorate.

The Auki school, under the direction of Mr. C. R. Fisher, initially concentrated on the construction of the 25-foot craft designed by Swinfield, but also constructed a 52-foot patrol vessel.

In 1963, an additional course was inaugurated in Nouville, New Caledonia for French-speaking trainees. This course began with the construction of 8-foot skiffs, but later engaged in the construction of 25-foot vessels. Both the Auki and Nouville courses have made a substantial contribution in the training of boat builders throughout the Pacific Islands.

In Micronesia, the renovation of the old Japanese shipyard at Malakal, Palau, made it possible to build and maintain wooden boats up to 125 feet in length. The program of boat building gained momentum under the direction of Mr. Peter Wilson by the acquisition of a master boat builder, Mr. Kiyoshi Matsumoto, who had experience in the construction of a variety of small boats. He was particularly experienced with the Japanese sampan hull, which is relatively easy to construct because of its hard-chine configuration. The same basic design can be used for boats of 20 to 100 feet in length, which is an added advantage.

In the first three years of its operation, the Palau installation constructed more than 75 boats, from 8-foot skiffs to a 75-foot commercial tuna sampan. This program also served an important training function.

A modest boat building program was pursued in the Cook Islands by Messrs. Ron Powell and Iopa Marsters, and three fishing craft were completed, but recent reports indicate they were not being fully utilized for fishing.

One of the notable efforts in small boat construction in the Pacific has been the fleet of fast bonito boats operating out of Tahiti in French Polynesia. These boats are largely a single-purpose boat utilizing the rapid trolling method with mother-of-pearl shell lures for capturing small surface schooling tuna. They are high performance boats that operate in local waters, supplying a high value commodity to a restricted market in Papeete, Tahiti.

Perhaps the best-known introduction of a small fishing craft to the Pacific Islands is exemplified by the efforts of Mr. Barry Fisher, fisherman and entrepreneur from the northwestern United States. Mr. Fisher's "Oregon Dory" was introduced in programs that involved construction, maintenance, training, and cooperative operational activities in three Pacific territories: Ponape in the Caroline Islands, American Samoa, and the Gilbert and Ellice Islands. Each program encountered special problems, some of which will be analyzed elsewhere in this workshop.

The dory program in American Samoa has probably been the most successful, providing a means by which Samoans have made a substantial contribution to the local protein requirements with demersal and pelagic species in near-shore waters.

These are descriptions of but a few of the many efforts to provide modern boats which would permit Pacific islanders to exploit the resources of their near-shore waters. The success of these efforts is difficult to assess; some have resulted in

increased productivity for only a limited period of time. Almost all of these programs have encountered problems relating to the funding of boat construction and operation--with loans and their repayment, repossession of equipment, etc., being particularly troublesome. Few have provided an economically viable enterprise that was also compatible with the local cultural norms.

A significant number of small boats for Pacific islanders have had their origin in the construction centers of Hawaii, Australia, New Zealand, and North America. These boats are often "off-the-shelf" models that are generally designed and constructed for the recreation-oriented market in developed countries, and do not adequately answer the needs of Pacific islanders.

Thus, it was considered opportune to gather knowledgeable persons together to re-assess the small-boat needs of Pacific islanders in 1975. The discussions will hopefully be carried out in an objective manner based on the following premises:

- + There is no one small-boat design that is the answer to the varied needs of Pacific Island fishermen..

- + The operational terms of reference for Pacific Island fishermen are changing, with such things as the increased price of fuel making previously acceptable systems no longer tenable.

- + There is a strong argument in favor of critically discussing the relative merits of various boat/propulsion systems

available (or being developed), and working toward providing an optimal system for any given set of circumstances faced by a Pacific Island fisherman.

+ Individuals with various points of view can contribute to a best solution--or solutions--so that some degree of consensus can be obtained.

It is envisioned that this workshop will elucidate the problems facing the artisanal Pacific Island fisherman today, and that potentially viable solutions to these problems can be proposed. Too often workshops are not as effective as they might be, because they culminate in sound proposals and resolutions which fail to be translated into effective action.

The sponsors of this workshop intend that the collective input of the participants will result in an action program which will make more efficient and effective small boats available to Pacific islanders who need them.