

SOUTH PACIFIC COMMISSION

FOURTH TECHNICAL MEETING ON FISHERIES

Noumea, New Caledonia

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WESTERN SAMOA - VILLAGE FISHERIES ASSOCIATION

Operational Report No. 1

Inception of Associations at Manase, Safotu &
Lefagaoli'i. (Savai'i)

Preliminary:

These villages were among the first to show enthusiasm for the idea of Village Fishermen's Associations first introduced by the Fisheries Division in November 1969.

During the period January to April, these three Associations went through the following stages:

- (1) Elected amongst themselves, members to their respective associations.
- (2) Sent 2 representatives each to the Fisheries Division Outboard Motor Training Courses, held at the T.T.I.
- (3) Constructed at their own costs, suitable but individual off-shore deep-sea fishing catamarans.

Accordingly, in early May, the Fisheries Division organized an expedition to Savai'i, the objects of which were:

- (1) To submit the fishing catamarans of the above villages to sea-trials.
- (2) To fit them out with outboard-motors of the appropriate horse-power and shaft-length.
- (3) To demonstrate, using the Fisheries Division launch, various fishing-techniques to the individual fishermen concerned.
- (4) To conduct similar demonstrations on board their own vessels.
- (5) To conduct shore (day-time) classes in rope-work, gear assembly, fish habits, fish preservation and handling, rough-weather boat-handling, etcetera.
- (6) To conduct local fishing experimentation, using its own resources, in order to evaluate existing local fisheries potential and possible future developments.

The remainder of this Report is devoted to detailed situation analysis of the three Associations.

Detailed Analysis:1. Manase Association

Composition: This Association consists of some 20 active members, including 2 trained outboard motor mechanics, and its finances are handled by the pastor, the Rev. Afa. Unfortunately, this village does not have a tradition for fishing and the overall inexperience of the men was a serious drawback.

Boat: This Association had constructed a very sturdy and seaworthy alia (catamaran) of some 34-feet in length with a 15-foot beam. This gave a very stable fishing-platform and its clean lines gave high cruising speeds. Initial load-tests showed it capable of carrying 17 men with ease and with little loss in free-board. Splash-board fittings to the forward edge of the centre deck proved adequate and the cross-beams securing the hulls were of ample strength. The twin-hull configuration did not 'work' in rough seas.

Initial Motor-trials gave strong cavitation effect due to interfering cross-waves between the hulls. A triangular-sectioned 'wave-breaker' was fitted in front of the motor-mount and after a few further modifications proved successful in alleviating the more serious cavitation effects.

Speed-trials involved the use of two motors, a 33 h.p. Johnson Long-Shaft and a 6 h.p. Johnson Long-Shaft. Results of these tests gave the following approximations:

33 h.p.	High-cruising speed.	Calm water:	14 knots
	Medium-cruising speed.	Open-sea:	9 knots
	Slow-cruising speed.	Rough sea :	6 knots
6 h.p.	Maximum speed.		6 knots
	Slow trolling speed		3 knots.

Fuel Consumption figures averaged out at:

33 h.p. motor	=	4 galls. per hour
6 h.p. motor	=	4/5 galls per hour

After due consideration the Manase alia was fitted out with both the above motors; the 33 h.p. as a high-speed and bad-weather motor and the 6 h.p. as a standby and economical cruise motor. Three 6-gallon fuel tanks were fitted to the alia.

Fishing Gear: Initially the Association possessed no fishing equipment at all. Accordingly, for the purposes of the training programme, the following scale of gear was given out:

4 x 100 fathom nylon hand-lines
 2 x 50 fathom trolling lines
 Weights, lures, hooks, nine leaders, etc. as required.

Training:

Practical training in deep-water hand-lining and trolling was carried out. Little success was achieved in the trolling-work due to absence of any sizeable schools of tuna and bonito in the area at that time. Each night at least 2 of the Fisheries Division staff of 6 spent all night in active practice in deep-water fishing with the Association. The areas soon chosen as being the most profitable were sea-bed areas off two adjacent lava fields. Working these areas Fisheries Division staff averaged catch-rates of approx 8-10 lbs of fish per man per hour - an acceptable rate. Manase villagers themselves averaged at the start $\frac{1}{2}$ lb. per man per hour, working up after a week's training to approx. 2 lbs per man/hour. All fish taken during the training programme went to feed Association families and gave outside sales value of some \$25.

During the latter part of the training programme it became obvious that considerable losses in hooks, lines and fish were being caused through shark attack and Fisheries Division staff engaged on a programme to eliminate the larger sizes of these predators. Considerable success was achieved in catching medium large Tiger Sharks which were presented to the nearby villages as food-gifts.

Bottom set-lines and long-lines were demonstrated and enthusiastically received but the Association was judged to be too inexperienced to trust with this equipment and considerable training will be necessary before they are competent fishermen.

Time spent totally with this Society	= 8 days
Part-days	= 9 days
Additional sporadic training	= 12 hours

Results:

Out of 22 fishing days, 10 were not utilised due to very bad weather. With the remaining 12, the Manase Association were able to provide some food for the village and made total sales valued \$54.

Conclusion:

Manase, though slow to start due to the inexperience of their fishermen, now give reasonable promise. Their boat is very good and they are slowly learning to fish in rougher seas. Given continued encouragement, advice and technical assistance they should prove to be a viable and praiseworthy unit.

2. Safotu Association

Composition: This Association consists of some 15 active members, including 2 trained outboard motor mechanics. Its finances are handled by Tua Epa, (Francis Schmidt) and the

association is very ably backed by the paramount chief Tapusoa. Additionally, Safotu has the advantage of possessing a very experienced, active tautai, (by name Pesi) who is probably the best boatbuilder in Savai'i. All other members of the association are able, experienced fishermen.

Boat:

The Safotu Association, as of this moment, possesses two 24-ft. semi-catamarans. These can each accommodate 4 fishermen and have a narrow planked deck between hull and float for stowage of gear. They are exceptionally well made but rather small and Safotu are now in the process of planning a larger conventional alia. Sea-trials with the two small vessels showed them to be fast and seaworthy but not stable enough for rough-water fishing. Nevertheless, they were very well built and capable of making long ocean journeys in normal weather. It was not necessary to alter these boats in any way to perform well with motors. Using 9½ h.p. Johnson's gave a calm-water speed of 9 knots for a consumption of 1 1/3 g.p.h.

Fishing Gear: The Safotu association was already in possession of deep-water hand-lines. These were supplemented by:

- 4 x 150 fathom hand-lines
- 6 lures
- 1 long-line of 200 fathoms
- Anchor lines, buoy-lines, floats, hooks, weights, etc.
- 1 shark-line.

Training:

Little training was necessary in the use of standard gear. Considerable interest was shown in methods of long-lining, bottom set-lines and shark lines. Practical demonstrations of these resulted in considerable catches of snapper (mu), groper (ulutui), and shark. Fishing was hampered by unusual periods of bad weather in which the Association's boats could not operate. Whenever possible Fisheries Division staff accompanied the Association on their expeditions and the division's boat worked in conjunction with them, usually acting as a 'shark-screen' to prevent prevalent sharks from getting at the Association's baits.

Time Spent with Safotu Society	= 5 days
Part-days	= 8 days
Additional Sporadic Training	= 10 hours

Results:

Total Fishing Days	: 5 (due bad weather)
Total Fishing Nights	: 8

Little success was achieved with trolling due to the absence of tuna-type fish from the area during the period. Attempts to locate schools of fish up to 25 miles from the coast were made in daylight (showing the possible range of mechanised alia) but in all cases the rough seas had forced the tuna deep and they were not feeding. The 'tautai' also showed considerable enterprise in searching for off-shore sunken reefs about 18-20 miles from shore and known to exist. Again bad weather hampered his activities. Unfortunately, the Echo Sounder ordered by Fisheries Division earlier in the year expressly for this purpose had not been delivered in time. On its arrival, a complete sea-bed survey of the north coast of Savaii is planned which should be of great assistance in establishing off-shore fishing localities.

Rough weather experience in their semi-catamarans convinced the association that a larger, more stable vessel to act as a mother-ship to their existing off-shore fishing vessels - would be advisable and preparations were in hand for the construction of a large alia when the Fisheries Division left the area. It is believed that some \$43 was in hand as a result from fish-sales at that time.

Future Outlook: Due to the skill of its members and their boat-building abilities it is felt that this association will thrive once they have more fishing equipment, a bigger boat and more reasonable weather. The importance of the 'political' support given by Tapusoa cannot be over-emphasised.

3. Lefagaoali'i Association

Composition: 15 active members of which some 8 are experienced, competent fishermen. Two of its members have received the full outboard Mechanics Training Course at T.T.I.

Boat: This Association has constructed a rather light-weight alia of about 26 ft. in length. Sea-trials showed it to be of restricted use in rough water and capable of carrying 5 men only. Both 20 h.p. and 9½ h.p. proved too powerful for it and it was eventually fitted with a 6 h.p. machine. In calm water this alia can travel at 6½ - 7 knots whilst in the open sea this speed is reduced to 5½. It is considered that this boat should not operate more than 5 miles from shore, nor 10 miles from its base. Luckily, there exist useful fishing-grounds within this radius. After seeing the limitations of their vessel, the Association agreed to construct a heavier, more sea-worthy craft.

Fishing Gear: Having no Fishing gear of their own, this Association was provided with:

4-x 100 fathoms nylon hand-lines
 2 x 50 fathoms trolling lines
 Weights, lures, hooks, wire leaders,
 as requested.

Training: Practical training in deep-water hand-lining and long-lining was carried out. Unfortunately, on their first solo attempt to operate a long-line, the Association lost two-thirds of the gear due snagging the line on the bottom. It is thought that several large fish in the line at the time may have contributed to the mishap.

Crayfish net trials and training were also carried out. Bad weather and lack of time did not permit the completion of this and the inconclusive results only served to indicate the need for additional trials when this association has become more proficient in general fishing techniques.

Time Spent Totally with the Society : 6 days
 Part-days : 4 days
 Additional Sporadic Training : 7 hours

Results: Out of 11 fishing days $6\frac{1}{2}$ were not operationally possible due bad weather. With the remaining $4\frac{1}{2}$ the association were able to provide food for themselves and make sales valued at \$14.

Conclusion: This Association, though small, is keen and has good potential. At the moment they are suffering from a certain lack of confidence due to their relative inexperience, the small size and limited weather ability of their boat and the prevailing bad weather.

On the next visit of Fisheries Division to Savai'i, additional time will be spent with this association to continue their training and bolster their moral.

Prospectus of Future Village Fishermen's Training Programme:

June 25 - July 7 : Falevao and Falefa West
 Mid-July : Malae (Savai'i) and Lefagaoali'i
 Beginning August : Sala'ilua and Foalalo (Savai'i).

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