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SAMOA CASE STUDY

By

John Stewart
Pacific Islands Development Projects

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Second SPC Fisheries Management Workshop and "Mini - RTMF"

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**Prepared by John Stewart
Pacific Islands Development Projects**

BACKGROUND

The previous presentation from Ueta Fa'asili offered an overview of the current success of the Samoa Sea food industry. The industry has become a top export earner for the country based on its export of fresh chilled tuna and blast frozen tuna. The success is largely due to the increased size of the Alia fleet from approximately forty boats three years ago to a current fleet of three hundred plus.

During this period Pacific Training agencies have endeavored to support this development with the introduction of specific training programmes. The fishers and processors have responded and are now strategically positioned as one of the worlds leading exporters of Albacore. The Samoa seafood products are now positioned as quality products on the U S and Japanese markets.

This case study addresses the implications of the new Maritime Regulations and the development of Safety Certification for the Fishers. It will not focus on the sustainability or the possibility of over exploitation of the fish stock, or the future harvesters of the resource.

Ever conscious of the Standard Training Certification and Watchkeeping for Seafarers (STCW), and the need for the Samoa Government to address issues of safety pertinent to the Samoa Fishing Industry, the Ministry of Transport (Marine Regulations) has identified new standards that have to be met from within the Fishing Industry. The standards are:

- 1 A structured qualification for Alia fishermen.
- 2 Regulations specifying the requirements for Survey of all Alia fishing boats.

As the Samoa Fishing Industry develops with this comes the desire to harvest more fish, and as the export price of fish fluctuates the fishers are driven to stay out longer and to drive further to hunt the tuna. Joint venture relationships are developing with offshore partners bringing in larger boats, and consequently the traditional Alia is once again forced to fish further and further out to sea. It is not uncommon for the newer designed Alia to fish out beyond forty nautical miles, and this is putting the industry at risk with the unacceptable loss of life. It is timely that the Samoa Government is preparing to implement the minimum standard of safety both for fishers and fishing boats.

During the past four years the industry has shown willingness to develop safety standards and safety awareness among the fishers. This has been through the promotion of resources, videos, and publicity materials supplied regularly by SPC. Additionally practical training programmes have been funded by the New Zealand NZODA by way of the Pacific Islands Investment & Development Scheme (contestable funds applicable to the development and training within the private sector).

DEVELOPING A CODE OF SAFETY/CONDUCT WITHIN THE SAMOA FISHING INDUSTRY

In response to the fragmented approach of developing a safety "culture" and building upon the previous training programmes the following should be considered:

1. Who own the Alia fishing boats?
2. What are the present qualification requirements of the masters?
3. What pre sea training is being conducted at present?
4. What safety equipment is carried aboard each Alia?
5. Does the Industry offer training to the fishers?
6. How far offshore are the Alia driving to set their lines?
7. Are the Alia designed to fish the deep waters?

Unlike many Pacific Island countries a large proportion of the Samoa fishing fleet is owned by land based entrepreneurs. Some of the entrepreneurs have fishing experience, but many others have little or no experience. It is with the support of these businessmen that the Samoan Industry has been so prosperous, thus to support the development of a career qualification structure, in line with the proposed Ministry of Transport Regulations, a cautious approach must be adopted.

With a fishing fleet of approximately three hundred Alia designed fishing boats (equating to a minimum of one thousand deckhands, and three hundred captains) a very large proportion of these fishers will have no recognized fishing qualification. Further many, due to their vast experience in the industry, would query the need for such qualifications.

JUSTIFICATION FOR CHANGE

There is a strong drive to maintain the tuna fishery for Samoan fishers, and this in turn has been responsible for the rapid boatbuilding programme over the past three years. Initially the Alia design was appropriate for bottom fishing, but the current specification is not suitable for working between thirty and fifty miles offshore. Although the regulations for boat specifications and survey will address the stability of the new boats, the cost of such boats may be prohibitive for the average Samoan Fisher or boat owner. Therefore attention must be given to establishing minimum safety standard requirements both for the fishers and the Alia.

COURSE SPECIFICATION

Currently there are no recognized training programmes offered within Samoa that are compatible with the requirements of the new regulations. However there are considerable generic training resources available, and these prepared at a basic level, would be suitable to address the needs of the industry.

A suggested matrix of training programmes has been tabled for discussion. However prior to any training being endorsed by the industry, the industry itself must be party to the development and approval process. Consideration must be given to the specific requirements of the Samoa Alia fishing fleet. As the regulations will address Alia boats that may fish out to fifty miles, thought must be given to the certification of those fishers in command. Without creating a cumbersome qualification structure, a qualification pathway should be developed. This should encourage participation, rather than an autocratic approach that may have a negative response.

Having indicated a soft approach to the implementation of certification, consideration must also be given to the integration of the "Samoa Maritime Qualification" into the South Pacific Maritime Qualification structure.

PROPOSED CERTIFICATION FOR THE ALIA FISHERMEN

The proposed Shipping (Small Fishing Vessel) Regulations that have been prepared by the Government of Samoa (Ministry of Transport) have identified safety requirements that fishers must comply with. Under the new Regulations fishers are encouraged to undertake practical training in sea safety. The training is not mandatory, however fishers who intend fishing out to fifty nautical miles will have to demonstrate their ability as masters. Further their fishing boat must have a current survey of sea worthiness.

The following is the suggested qualification structure under consideration:

- 1 FISHERMAN'S SAFETY CERTIFICATE (Basic Level One)
- 2 SAFETY CERTIFICATE (Level Two)
- 3 CLASS 6 Master / Engineer

It is anticipated that the holders of the 3 certificates will be deemed competent by the Ministry of Transport to fish out to 50 nautical miles.

PROPOSED COURSE CONTENT

1 Fisherman's Safety Certificate (Level One)

Aim and Purpose

To provide those entering, or those within the Samoa Fishing industry employed as deckhand fishers, with the opportunity to obtain the practical skills necessary to comply with the interpretations within the new regulations, as applicable to Safety on board an Alia.

The Fisherman's Safety Certificate Level One is prepared to be offered over a period of three days.

Expected Qualifications

Participants will receive a Certificate of competence endorsed by the Ministry of Transport. (Level one is part one of the Full Safety Certificate.)

The course will be designed to encourage practical competence; where possible all training will be by demonstration and practical participation.

COURSE CONTENT

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1 Fisherman's Certificate Level One**MODULE 1****Basic First Aid**

- 1.1 First Aid kit
- 1.2 Control Bleeding
- 1.3 Resuscitation (observation only)

MODULE 2**Safety Survival**

- 2.1 Principles of survival at sea
- 2.2 Survival craft, appliances, equipment.
- 2.3 Search and Rescue procedures

MODULE 3**Distress and Emergency situations**

- 3.1 Types of emergencies
- 3.2 Precautions
- 3.3 Foundering
- 3.4 MOB
- 3.5 Collision

MODULE 4**Sea to Base communications**

- 4.1 Use of VHF radio
- 4.2 Introduction in the use of Radio Beacons / EPIRB.
- 4.3 Introduction in the use of GPS
- 4.4 Give a position from the GPS.
- 4.5 Confirm radio frequency channel and display in cabin/wheelhouse

MODULE 5**Abandon ship, delegation and procedures**

- 5.1 The role of the skipper when abandoning ship
- 5.2 Crew preparation when abandoning ship
- 5.3 Prevent, control, and reduce panic on board
- 5.4 Crew procedures when in the sea after abandoning ship

MODULE 6**Distress signals**

- 6.1 Introduction to the standard flares in use

MODULE 7**Fire prevention and control**

- 7.1 Hazard situations on board an Alia
- 7.2 Fuel storage
- 7.3 Electrical insulation (if batteries are on board)
- 7.4 Responsibilities if fire on board
- 7.5 Skippers role
- 7.6 Fire extinguishers
- 7.7 Explosion on board
- 7.8 Loading fuel at the pier, safety procedures

MODULE 8

Engine breakdown

- 8.1 Fuel system, fuel pump
- 8.2 Contaminated fuel
- 8.3 Engine electrical system
- 8.4 Basic tool kit
- 8.5 Spares

MODULE 9

General deck safety

- 9.1 Setting and retrieving long line in heavy weather
- 9.2 Alia stability in heavy weather
- 9.3 Stowing the catch
- 9.4 Basic displacement principles
- 9.5 Protection of the outboard engine in heavy weather
- 9.6 Safe storage of petrol in heavy weather

Course Assessment and Moderation.

2. SAFETY CERTIFICATE (Level Two)

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Aim and Purpose

To provide fishers employed within the Samoa Fishing Industry who have completed the Fisherman's Safety Certificate Basic Level One with the opportunity to complete the full Safety Certificate. The Safety Certificate Level Two, together with the required sea time, is the recognized prerequisite for the Class 6 Master/Engineer. The Safety Certificate is offered over five days, or provided in modules as required.

Expected Qualifications

Participants will receive a Certificate of competence endorsed by the Ministry of Transport.

The course will be designed to encourage practical competence; there will also be a theoretical component.

SUGGESTED COURSE CONTENT

- 1 Safety Certificate Level Two (Reference to SPC Modules 001)
002)
003)
004)
- MODULE 1**
Elementary First Aid
- 1.1 **RESPONSIBILITIES** of the certified first aider
1.2 First aid emergency procedures
1.3 Attending upon the casualty
1.4 Calling for support/advice
1.5 **RESPIRATORY** and circulation systems
1.6 **CPR**.
1.7 Management of shock
1.8 **WOUNDS** and bleeding
1.9 Dressing wounds
1.10 Removal of hooks from limbs
1.11 Internal bleeding action to be taken
1.12 Applying pressure points
1.13 **FRACTURES** to limbs
1.14 Skull and ribs
1.15 **BURNS**
1.16 Dressings, to scalds. Petrol burns, electrical burns
- MODULE 2**
Safety Survival Skills
- 2.1 **RESPONSIBILITIES** of the certified first aider
2.2 **THREATS** to survival (review module 2 Level one Certificate)
2.3 **LIFESAVING** appliances, equipment, lifejackets etc.
2.4 **LIFERAFTS** three man, launching methods, management.
2.5 **SEARCH** and rescue
2.6 Air search procedures, supply drops.
- MODULE 3**
Fire prevention and control
- 3.1 **FIRE** prevention, causes of fire in the marine environment
3.2 Emergency procedures and responsibilities of master and crew
3.3 Combustion, causes of fire onboard the Alia
3.4 Use of portable fire extinguishers
- MODULE 4**
Occupational Health and Safety
- 4.1 Emergency situations at sea including actions to be taken and responsibilities of master and crew
4.2 Safe working practices on board the Alia
4.3 Dangers of drugs and alcohol abuse
- Assessment and moderation

**EXTRACT FROM THE SHIPPING (SMALL FISHING VESSELS)
REGULATIONS 1998**

SAMOA REGULATIONS:

PER SAFETY EQUIPMENT

All vessels, operating within 20 nautical miles off the shore shall carry on board:

1. Lifejackets of a prolonged submersion type, for every person on board, with the vessels name and Registry Number followed by capitol letters APW, permanently marked:
2. One life buoy (life ring) with the vessels name and registry number followed by capitol. Letters APW, permanently marked and a self-igniting light attached by 30 meters of floating rope (On vessels of over 9 meters LOA, 2 lifebuoys, marked as above, shall be carried, one with self igniting light attached)
3. An appropriate marine compass and either the equipment for position determination or a GPS
4. A storm sea anchor.
5. An aluminum radar reflector, meeting the internationally accepted performance standards, permanently mounted at a height of not less than 4 meters above the load line.
6. At least 1.5sq meters of orange reflective painted surface (roof) with registry number followed by APW conspicuously painted on and occupying the central third of the orange painted surface.
7. Five parachute rockets, 5 flares and 3 smoke signals stored in a watertight container.
8. For areas covered by the Fisheries Communication Base (FCB), a VHF marine radio with channel 16 and antenna positioned for best emission / reception.
9. For areas not covered by the FCB , a single Sideband Transceiver with 2182 kHz frequency.
10. An EPIRB with at least 15m. of floating rope attached to it.
11. Engine spare parts and tools for repairs at sea.
12. One high capacity hand pump, depending on the design type, capable of discharging sea water from both hulls simultaneously, or one pump for each hull.
13. An appropriate full First Aid kit at all times, the box being permanently marked with registry number only.
14. One foam fire extinguisher per engine, of not less than 4kg capacity each, with valid inspection certificates and registry number permanently marked on each one.
15. Survival rations and portable water supplies for all persons on board sufficient for at least 3 days.
16. An appropriate anchoring system suitable for holding the vessel anchored in all foreseeable weather conditions (min 1 reef anchor, 10 m chain and 30 m rope)
17. Search and rescue signaling mirror

MANNING, TRAINING and CERTIFICATION -- (1)

Where a vessel :

1. operates within 20 nautical miles from the shore, and
2. is powered by one or more engines with aggregate power of less than 250kw or 350 horsepower

It's crew shall consist of at least:-

- (i) one skipper/engineer holding a Master / Engineer Class 6 certificate, and :
 - (ii) a number of crew holding safety certificates, providing that the total number of persons on board the vessel does not exceed the number stated on the Small Vessel Safety Certificate.
3. The certificates, referred to in paragraph (i) and (ii) shall be issued by the Maritime Training College or an institution recognized by the secretary, and shall include instruction in:
 - A Survival techniques
 - B Fire prevention and control
 - C Elementary first aid and
 - D Occupational health and safety

The Fisherman's Safety Certificate Level One includes A, B, C, and D above.

It is anticipated that the proposed Fisherman's Safety Certificate Basic Level one, will be offered during November 1998. Two courses will be conducted at the Maritime Training College, and two will be conducted in Savaii in association with the Savaii Fisherman's Association. Each course will be evaluated on completion, and the course content amended if required.

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These pilot courses will be funded from NZODA funds (PIIDS) with the assistance of a New Zealand trainer.

3. CLASS 6 MASTER / ENGINEER (SPC 023)

The Safety Certificate, together with the recognized sea time, is the prerequisite study for the Class 6. Master / Engineer Certificate. The following modules constitute the proposed Class 6 curriculum.

1. Nautical Knowledge including Met.
2. Engineering Knowledge
3. Basic Radar
4. Radiotelephony

It appears the Class 6 curriculum contains considerable theory work, and a high degree of the programme may not be relevant to Samoan Alia Fisherman. Although the curriculum is well prepared, it is important that the local industry have the opportunity to comment on the relevance of the curriculum to their needs. Presently there are probably very few fishers with the prerequisite skills and knowledge to undertake the Class 6 Course. Even if the fishers held the Safety Certificate it is doubtful they would be adequately prepared for the Course.

The Samoa Ministry of Transport supports a qualification that will be compatible to the Regulations. To date no research has been conducted to determine if the Class 6 qualification is suitable to meet the needs of the fishing industry. Within the new Regulations for an Alia to fish beyond 20 nautical miles the Master must have a Class 6 qualification. Currently this would restrict a very large proportion of the Apia fleet from fishing within the productive fishing grounds.

Consideration should be given to reviewing the content of the Class 6, making it more applicable to the requirements of a unique fishing industry.

CONCLUSION

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The Samoa Fishing Industry is the leading export earner in Samoa, and to maintain that position there is a need to address safety issues associated with Alia fishing. This must be done by:

1. Introducing (as soon as practicable) the minimum Safety standards to improve the seaworthiness of the Alia fishing boats.
2. Delivering the Fisherman's Safety Certificate Courses. Through the Courses the fishers will gain an awareness of safe practices onboard the Alia.

Together these initiatives will hopefully reduce the loss of life statistics that are currently increasing at an alarming rate as the size of the fishing fleet increases.

All involved in the Boatbuilding and Fishing Industries have a responsibility to support the Regulations. In particular their responsibilities are associated with the construction of new vessels, licensing of vessels, and the manning, training and certification requirements.

RECOMMENDATIONS

It is recommended that consideration be given to reviewing the curriculum of:

1. The Sea Safety Certificate.
2. The Class 6(Master / Engineer) so that:
 - a) a sub committee be established to prepare the terms of reference, and coordinate the review process,
 - b) the modules reflect the particular needs of the Alia fishermen,
 - c) the duration of the training course be reduced in length,
 - d) the industry be consulted during the review including comments from local Fishermen's Associations,
 - e) the Samoa Polytechnic Maritime College (as the recognized training provider) is represented on the review sub committee during the review process,
 - f) the Ministry of Transport Marine Division is represented on the review committee during the review process,
 - g) the review process commences as soon as practicable, and
 - h) a trainers teaching guidelines reference manual be prepared.

14.

POTENTIAL BARRIERS

During the past two years 250 new boats were constructed using the old Alia design. None of these boats were structurally upgraded and most have been constructed with below specification materials. It is possible many will not comply with the new Survey Regulations.

At present there is very little emphasis on Pre-sea and Sea-safety training for deck crew, and only a few boats carry safety equipment on board. With over 1000 crew and a potential 300 Masters in the fleet it will be a major exercise to conduct training courses for all personnel. Further it is doubtful that the fishers will be able, or willing, to attend the Courses. This is largely due to the fact that the majority of boats are out fishing each day. Additionally as everything appears to have been running well to date it is likely that the fishers will be reluctant to change and accept the new Certification structure.

The Samoa Polytechnic Marine College is interested in providing all Certification Courses. The College, together with the support of the Fishermen's Associations, The Ministry of Fisheries, and The Ministry of Transport, will be the catalyst for creating the environment for the successful implementation of the Regulations.

To facilitate the introduction of the Regulations the Alias must be surveyed in a non-threatening manner, and the training courses should be designed to encourage participation (course fees must be realistic and the new qualification procedures must be introduced over a long-term period). Further as the new Regulations will be implemented in 1999 it is imperative that the proposed Certificates are endorsed as soon as practicable.

For further information or comment please contact John Stewart

Pacific Islands Development Projects

**332 Ocean Beach Road
Mount Maunganui
NEW ZEALAND**

ph/fax 064-7-5740649

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