WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL

Report on American Samoa Fisheries Development Projects

159th Council Meeting
March 17-21, 2014
Fiesta Resort and Spa, Saipan
Hilton Resort and Spa, Guam

1. Introduction and Background Information

This report updates the Council on projects and activities relating to American Samoa fisheries development since the 158th Council Meeting in October 2013.

American Samoa fisheries at present are on the lower end of the historical 30-year time series in terms of participation and landed value. In 1983, for example, 38 vessels landed approximately 125,000 pounds of deep water bottomfish, compared to 15,000 pounds landed in 2012 by 14 vessels. There were 21 bottomfish vessels operating in 2009, the year of the devastating tsunami. There were 50 vessels trolling for pelagic species in American Samoa in 1985 compared to 10 in 2012. In the longline fishery, participation was at its highest point with 70 active vessels in 2001 of which 40 were *alia* less than 35 ft, although *alia* were not built for this type of fishery. For the past several years, there has been only one *alia* was fishing with longline gear, and 20 longline vessels larger than 50 ft operating.

Since 2010, the Council has been funding fisheries development projects in American Samoa. Completed projects include the construction of two boat ramps on Tutuila, and the establishment of two fishermen's cooperatives and fishermen's ice making and fuel storage facilities in the Manu'a Islands (Ofu and Ta'u).

2. New projects and activities

The following projects and activities are currently being worked on by the Council, in coordination with the American Samoa government and other entities, to promote fisheries development in American Samoa.

2.1 Continued implementation and oversight of the Manua Islands fishermen facilities

The establishment of two Manu'a fishermen facilities in Ofu and Ta'u were made through the request by Manu'a fishermen and endorsement of Manu'a Council of Chiefs during their meeting with the Council in March 2011. Each facility has 2 components 1) the ice making component, and 2) the fuel storage component.

The facilities were officially open in February 2013 with each facility that included 2 ice making machines and an ice storage container for the ice component, and 4 x 500 gallons storage tanks for the fuel component.

Two fishermen's cooperatives were formed to manage the facilities (Faleluaanu'u CoOp in Ofu; Tai Samasam in Ta'u). A facility manager for each facility was appointed from the members of

the respective CoOps and had been paid by the Council since the establishment of the two facilities.

The operations of facilities were good particularly at Ta'u until the establishment of the ASG fuel station where it sells gasoline for $4 per gallon. The CoOps were selling for $5 per gallon. The main costs to the facilities are the utility expenses incurred through the use of ice making machines. Little fish is exported out of Manua to Tutuila for sale, so ice sales are minimal at this time. The ice machines are regularly turned on few hours once every 2 weeks for maintenance purposes.

The CoOps are still selling fuel to fishermen particularly on weekends and when the ASG fuel station closes at 2:00 p.m. Table 1 indicates the average monthly profit made by each CoOp before the ASG fuel station was established in Ta'u. It can be seen that the Tai Samasama CoOp in Ta'u was doing very well making an average profit of $579.49 per month which was enough to pay for its utility expenses incurred by ice making machines. However, when the ASG fuel station was established and was selling gasoline at $4 per gallon, the monthly profit dropped down to $133.60 which was not enough to pay for the utility costs. On the other hand, the Ofu fishermen facility is yet to experience the impact of the ASG fuel station which is currently being constructed. The Ofu fishermen's facility is generating an average monthly profit of $303.94 which is still not enough to meet its utility costs. Currently, and for various reasons, there are not many fishermen in Ofu that can generate the amount of fuel sale to meet monthly utility cost. It is believed fishing would increase if there was a viable transportation system to commercially export fish from Manua to Tutuila.

Table 1 : Average monthly profits showing the impact of ASG fuel station when it was established in Ta'u.

	Faleluaanu'u (Ofu)	Tai Samasama (Ta'u)
<u>Average monthly fuel consumption (gal)</u> Before ASG fuel station After ASG fuel station	 182	 347 84
<u>Average monthly profit</u> Before ASD fuel station After ASG fuel station	 $303.94	 $579.49 $ 133.60
Average monthly electricity bill	$308.00	$355.00

2.2 Survey of Manu'a fishing boats

An initial survey of Manu'a fishing boats was conducted in September 2012. The result of the survey is summarized in Table 2.

Table 2 – List of fishing boats in Manu's and their operating conditions

		OFU			TA'U			Total
(a)	**Fishing participation**	Alia	S. hull	Sub total	Alia	S. hull	Sub total	
1.	Fishing boats	5	2	7	7	7	14	21
2.	Operating full time	2	1	3		1	1	4
3.	Operating part time				3	3	6	6
3.	Not operating	3	1	4	4	3	7	11
(b)	**Fishing boat conditions**							
1.	Boats well maintained – all engine working with spare	2	1	3	0	5	5	8
2.	Boats require minor body repairs	1	1	2	2	0	2	4
3.	Boats require major body repairs/beyond repair	0	0	0	1	0	1	1
4.	Boats require minor engine repairs	0	0	0	2	1	3	3
5.	Boats require major engine repairs	0	0	0	0	0	0	0
6.	Boats require body and engine repairs	2	0	2	2	0	2	4
7.	Boat with no engine	0	0	0	0	1	1	1

From Table 2, the following conclusions can be made-

- A total of 21 fishing boats are owned by members of the 2 Manu'a fishermen CoOps, of which 7 belongs to Faleluaanu'u Fishermen's CoOp (Ofu) and 14 belongs to Tai Samasama Fishermen's CoOp (Ta'u). Ofu has 7 fishing boats comprising 5 alias and 2 single hulls, while Ta'u has 7 alias and 7 single hulls.
- Of the 21 fishing boats, only 4 of them are fishing full time. This includes 2 alias and one single hull from Ofu, and only one single hull from Ta'u. One full time fisherman and boat owner in Ofu has 2 fishing boats and has been effectively fishing. Effectively fishing means going out fishing at least 3 times a week.
- There are 6 boats that fish part time. These include 3 alias and 3 single hulls from Ta'u. The common reason for not fishing full time is because most of the CoOp members have full-time paid employments. They are only available during weekends.
- Over 50% (11 boats) of the 2 CoOp fishing boats are not operating due to either the need for boat body repairs, outboard motors repairs, or combination of both.
- A preliminary assessment indicates that it would cost approximately $47,800 to refurbish all Manu'a fising boats owned by members of the 2 Manu'a fishermen CoOps.

2.3 Renovation of Fagatogo Fish Market

In October 2013, the Council contracted locally-based architect (Joe Heilenman) to develop detailed plans for the renovation, including:

i) Detailed general renovation plan;
ii) Electrical plan;
iii) Plumbing plan and;
iv) Project site plan

These plans were prepared based on the advice of a small working group comprising the Council's American Samoa Fisheries Development Coordinator (ASFDC), Ueta Faasili, cold storage expert from the Samoa Tuna Processor (STP), Craig Double, and project architect, Joe Weilenman. The plans were used to support the local process in seeking approvals for the Land Use permit, PNRS and Building permit from DPW. Since all required approval and permits have all been granted, solicitation for bids has been published in local papers. The deadline for proposals ends on March 13, 2014.

The estimated time to renovate the fish market is 4 months.

2.4 Fishermen Lending Scheme (FLS)

The ASFDC has been working with Department of Commerce (DOC) and the Development of American Samoa (DBAS) to develop the FLS. The existing Economic Development Revolving Loan Fund (EDRLF), jointly administered by DOC and DBAS, was identified as the appropriate program for the FLS and will be adjusted to cater for the needs of fishermen. The present ceiling for the EDRLF is $100,000 maximum. However, DOC and DBAS have agreed to increase the ceiling from $100,000 to $200,000, to help with the financing of new vessels. The ASFDC has prepared an economic analysis of a new fishing boat for the review of the DOC and DBAS (see Appendix 1). The government of American Samoa has provided a $1,000,000 bond to the BDAS to support the FLS.

2.5 Development of multiplatform fishing vessel for American Samoa

2.5.1 Fishing boat specifications

There is a need to identify a new vessel design to replace the aging alia fleet to: (1) enhance sea safety of fishermen; (2) undertake various types of fishing with emphasis on longlining and bottom fishing; (3) increase duration of fishing; (4) increase carrying capacity; (5) improve quality of fish through increase ice carrying capacity; (6) easily conduct boat maintenance, (7) have low operational costs; and (8) be easily affordable by local fishermen. To develop a fishing boat that caters for all the above needs, the Council's ASFDC has made wide range of consultations with local fishermen, fishermen from neighboring Samoa, fishing experts from regional organizations, and the naval architect that originally designed the Samoan alia fishing boat. Having evaluated the information gathered, the ASFDC has provided a general design of the new fishing boat (illustrated in Figure 1 with main particulars listed in Table 2).

Figure 1- General designs of the new fishing boat for American Samoa fishermen

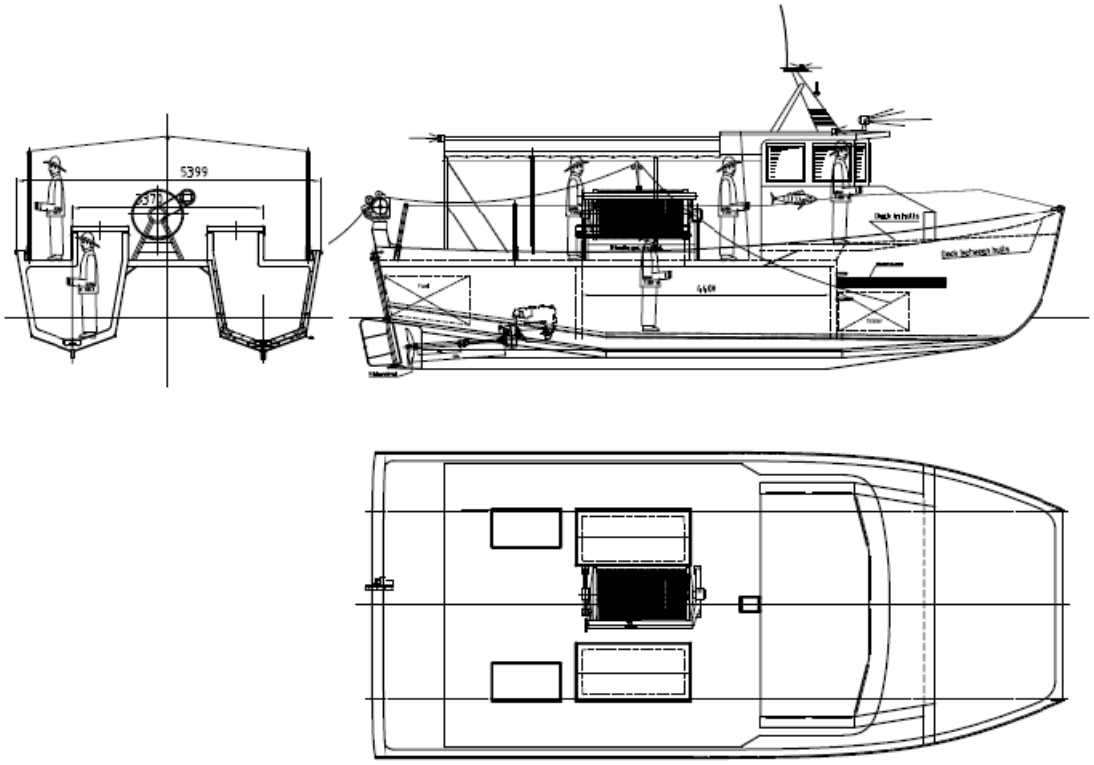

Table 2- Main particulars of the new fishing boat

Length over all:	12.30 m	40.4 ft
Length designed waterline:	11.38 m	37.2 ft
Beam moulded complete Alia:	5.40 m	17.8 ft
Beam moulded one hull:	2.20 m	6.6 ft
Depth moulded to deck:	1.60 m	5.3 ft
Draught to DWL:	.78 m	2.5 ft
Displacement to DWL:	7.6 tons	
Engine power recommended:	2 x 40 hp inboard	
Service speed:	9 knots	
Fish hold volume:	16 cu. M	
Water tank capacity:	300 litr.	
Fuel tank capacity:	1500 litr.	
Fuel range at full speed:	800 n. miles /90 hours	
Suitable for the following fishing methods	Pelagic longlining, Dermersal longlining, Bottom fishing, Trap fishing, Net fishing, Trolling	

2.5.2 Economic analysis of the fishing boat

The economic analysis focused on the expected performance of the boat in the tuna longline fishery as this was the only source of data available at the time of writing. The boat needs to undertake well-designed fishing trial to include other fisheries to determine its full ability to perform sustainably.

It was estimated that 60 fishing trips with an average of 3 sets of 1000 hooks deployed each trip could be completed on a properly managed vessel of this design. The vessel would then be fishing a total of 180 days a year. This is considered a conservative estimate as most of the similar tuna longline vessels with the same fishing capacity fish an average of 220 days a year. The average catch rate was set at 52 kg (114 lbs) per 100 hooks as this is the current catch rate for the fishing vessels fishing in and outside the 50 nautical mile zone around Samoan islands[1]. The data indicated that the catch combination is 74% for Albacore, 16% for Yellowfin and Big-eye tuna, and 10% for other species.

The prices used for the analysis were obtained from StarKist Samoa, Tri Marine (Samoa Tuna Processor) and from local fish retailers. These were $2,500 per metric tone ($1.14 per pound) for Albacore, $5.65 per pound for fresh yellowfin and big-eye tuna, and $2 for the rest of the catch. The average running costs for the vessel, which include fuel, bait, ice, food, crew wages and fishing gear repair and replacement were estimated at $5,560 per fishing trip.

Fixed costs totaling to $78,250 were calculated assuming that a boat operator would need to borrow $230,000 to purchase the vessel and fishing gear. The annual fixed costs included 12% interest for the loan repayment, 10% depreciation of the value of the boat, 9% insurance fee, 3% for repairs and maintenance, and $ 50 for registration fees. The total annual expense for the new fishing boat after 60 fishing trips is estimated at $333,420. The total value of catches earned by a boat of this designed is estimated at $399,650. The boat is capable of making an annual profit of $66,200 which is 20% of the annual cost (See Appendix 1).

2.6 Increasing local boat building capacity for fishing vessel construction

This project is being evaluated to go together with a new multipurpose fishing vessel discussed in Section 2.5. The need to enhance the capability of local boat builders is identified under the ASMCP. It is important that construction of fishing boats occurs in American Samoa instead of ordering them from overseas boat building companies. The ASFDC is working on developing this project and has identified a two component structure. The first component would involve class room lectures and exercises delivered by the Naval Architect / Expert Boat Builder for the local boat builders.

The second component would involve practical training where local boat builders will be engaged in building a prototype – a fishing boat which will be the new generation of fishing boats for American Samoa fishermen that is discussed in section 2.5. The completion of the new

[1] Samoan islands include those of American Samoa and Samoa.

fishing boat will signify the successful accomplishment of the boat builder training. This component would provide an opportunity for local boat builders to learn the design and specifications of the new fishing boats and installations of various mechanized equipment which are lacking in current fishing boats used by artisanal fishermen.

Formal certifications would be awarded to boat builder who may be able to accomplish the requirement of the training. Those with such certifications would be expected to acquire relevant knowledge and skills to be able to build boats on their own. The ASFDC is currently working on developing this program further for which the Council would seek additional partners to support implementation.

2.7 Fishermen Training Program (FTP)

A well designed fishing boat for American Samoa fishermen that is capable of operating many types of fishing methods is of little value if the fishermen would not be able to operate it to its full capacity. An FTP would aim to enhance fishermen knowledge and experience in all aspects of fishing and sea safety, and to introduce fishermen to new and efficient equipment that help fishermen increase catches and improve fish quality for better prices from local and overseas markets.

For example, a training vessel would be equipped with various systems including electronic, mechanical, hydraulic and navigational equipment, which currently are not found on existing *alia* vessels, but necessary to promote safer and more efficient fishing activities. A comprehensive training program would be established for fishermen and boat owners to learn: 1) operating new equipment, 2) sea safety, 3) fishing gear and methods, 4) navigation, and 5) engine repair, and 6) basic book keeping. At the end of the training, successful participants would be awarded with "Certificates of Successful Participation" which could potentially qualify participants in the Fishermen Lending Scheme program. The proposed training program needs further development and the identification of additional partners such as the American Samoa Community College and the Secretariat of the Pacific Community.

2.8 Manu'a Fishermen's Facilities Cold Storage

These Cold Storage facilities are important for future development of Manu'a fisheries. As a prerequisite to implementing this project, Manu'a fishermen need to participate more in fishing. This can only be done if and when all fishing boats surveyed are repaired as discussed in Section 2.2. Cold storage units were requested by the two Manu'a fishermen cooperatives during the official opening of the Manu'a fishermen facilities in March 2013. Refrigerated storage containers approximately 10 ft in length have been identified as the appropriate size, but concerns over recurring electrical costs remain. To meet near term needs, the Council is investigating market available storage containers that are durable, transportable, and have the ability store fish on ice for over one week. This would facilitate the transpiration of fish from Manua to Tutuila.

2.9 Samoa Tuna Processors Small Vessel Loading Dock

In June 2013, STP received permit authorization from the US Army Corps of Engineers to rebuild a seawall fronting its facility and to construct a small vessel loading dock. Completion of the seawall and dock are expected in early 2014. The Council supports STP's small vessel dock

as it would allow locally based small vessels to offload fish and take on supplies (e.g. ice, bait) for fishing operations. The presence of STP (one of the largest fish suppliers globally) and their interest buying fresh fish from local vessel operators provides a new opportunity for fisheries development in the territory. Access to high quality fishing vessel ice remains an issue within Pago Pago Harbor. A 10 -20 ton/day ice machine located on the end of the small vessel dock that could be accessed by both large and small longline vessels, alia, and sports fishing boats might be a potential solution. The Council is working with STP to further investigate a potential ice machine on the end of the dock.

2.10 Pago Pago Longline Vessel Dock Improvement

Lack of docking space of local US longline vessels within Pago Pago harbor continues to be a major problem as communicated to the Council by local vessel owners. There has been internal consultation between DMWR, DPA and DOC on how to address the difficulty in docking space. Suggestions were made to deploy 4 buoys to relocate fishing boats that have been side docked for long time awaiting major repairs. The costs and permitting requirements for this project are currently being developed.

3.0 Other Related Initiatives

3.1 Establishment of a Fisheries Development Division

The fisheries development environment for American Samoa fishermen needs continued support. One of the challenges to American Samoa fisheries development is the lack of American Samoa government personnel that are solely tasked to work on fisheries development in the Territory. To address this need, the Department of Port Administration has recently requested Saltonstall-Kennedy grant program funding to establish a fisheries development division. The proposal is seeking funding to meet costs for three staff, operational costs, and a training program for a two-year period. Saltonstall-Kennedy award funding has yet to be awarded at the time or writing.

3.2 Request from Aunu'u Fishermen

In February 2014, the ASFDC received a request from Aunu'u fishermen for fisheries development assistance. Based on their request, there are 36 fishermen using 9 vessels based in Aunu'u. They are requesting assistance for a ice machine, coolers, fishing equipment, safety equipment, and fuel subsidies. They also identify a lack of fisheries data collection occurring in Aunu'u.

3.3 American Samoa Longline Diversification Assistance

Following meetings held with American Samoa longline limited entry permit holders in early February 2014, the Council has initiated assistance funding to support diversified fishing operations. The longline fishery is facing potential economic collapse due to low albacore catch rates and there is a need to demonstrate other methods and fishing operations to diversify landings for species such as fresh yellowfin, bigeye, mahimahi, wahoo, etc. Working through StarKist Samoa and Samoa Tuna Processors, the Council is providing partial trip cost funding for trips during the productive moon phase (2 week trips) and/or for conducting fresh fish operations. Based on information provided by fishermen, cost/production will be evaluated.

Appnedix1 – ECONOMIC ANALYSIS FOR AMERICAN SAMOA MULTIPURPOSE FISHING BOAT

Value of boat and fishing gear		$230,000.00
Average running costs (per trip)		
Cost of fuel used on trip		$ 1,200.00
Bait		$ 220.00
Ice		$ 400.00
Food purchased for trip		$ 200.00
Fishing gear repaired/replaced		$ 229.00
Crew wages (20% of catch)		$ 2,004.12
Total running costs per trip =		**$ 4,253.12**
Total running costs per year =		**$ 255,187.20**
Fixed costs (per year)	**%**	
Loan repayments/return to capital	12	$ 27,600.00
Depreciation of vessel	10	$ 23,000.00
Insurance of vessel	9	$ 20,700.00
Boat repairs and maintenance	3	$ 6,900.00
Registration/fees		$ 50.00
Total fixed costs per year =		**$ 78,250.00**
Total fixed costs per trip =		**$ 1,304.17**
Statistics		
Estimated number of trips per year		60
Average number of sets per trip		3
Average number of hooks per set		1000
Numbers of hooks set per year		**180,000**
Total costs per trip =		**$ 5,557.29**
Total cost per year =		**$ 333,437.20**
Fishing costs per 100 hooks =		**$ 185.24**
ESTIMATED RETURNS		
Average catch (lb) per 100 hooks	%	114
Average Abacore catch	74	$ 96.17
Average yellowfin and Bigeye	16	$ 103.06
Others	10	$ 22.80
Albacore price pre lb		$ 1.14
Yellowfin and Bigeya price per lb		$ 5.65
Price of other fish per lb		$ 2.00
Catch (lb) per year =		205,200
Average price per lb		$2.93
Albacore catch per year ($)		$173,106.72
Yellfin/Bigeye catch per year($)		$185,500.80
Other fish per year ($)		$41,040.00
Catch value per year ($) =		$ 399,647.52
ESTIMATED PROFIT		
Estimated annual returns minus costs =		**$ 66,210.32**
Estimated profit as % of costs =		**20%**

lbs/100 hooks	Price /lb
20	9.26
25	7.41
30	6.17
35	5.29
40	4.63
45	4.12
50	3.70
55	3.37
60	3.09
65	2.85
70	2.65
75	2.47
80	2.32
85	2.18
90	2.06
95	1.95
100	1.85
105	1.76
110	1.68
115	1.61
120	1.54
125	1.48
130	1.42
135	1.37
140	1.32
145	1.28
150	1.23
155	1.20
160	1.16
165	1.12
170	1.09
175	1.06
180	1.03
185	1.00
190	0.97
195	0.95
200	0.93
205	0.90
210	0.88
215	0.86
220	0.84