

FISH MARKETING SCHEME FOR UPOLU, WESTERN SAMOA*

1. OBJECTIVES

- To enable village fishermen to store their catch for five days
- To provide a market for surplus catches from the villages
- To assure supply of fresh and frozen fish to consumers in Apia at a stable price.

2. BACKGROUND INFORMATION

During the last two years the number of motorized boats in the villages of Western Samoa has increased from 73 to 198; of the latter, 134 are based in Upolu. The increase in the number of boats has meant that the fishermen find it increasingly difficult to sell their fish in the villages at a reasonable price before it goes rotten. Fishermen along the north coast of Upolu from Falefa to Mulifanua have the advantage of a frequent bus service to Apia where they can dispose of their catch while it is still fresh. However, fishermen on the south coast from Lefaga to Aleipata and including Fagaloa complain of great difficulty in selling surplus catch. The bus service is infrequent and the hire of a pick-up too expensive, except for unusually large catches.

The first objective of the Fish Marketing Scheme is to increase the time village fishermen can keep their catch fresh. Fish not kept on ice is only edible within 18 hours of being caught. With equal weight of ice and fish, it is possible to keep the catch fresh for five days in an insulated container. The FAO Village Fisheries Project has supplied two flake ice machines which are now installed in the Fish Market. The machines have a total capacity of 2,500 lbs of ice directly at the Fish Market at a price of WS\$ 1.00 per 100 lb. The FAO Village Fisheries Project is also providing iceboxes at a cost of WS\$ 35.00 each. Fishermen on the south coast, however, will face difficulties in the supply of ice due to the cost of transport. Until ice-making machines can be installed in the districts, a regular delivery service is essential. At present there do not seem to be any private operators interested in providing this service except at very high cost. The Fisheries Division therefore envisages utilizing the truck supplied by the FAO Village Fisheries Project to deliver ice three times a week to Lefaga, Safata, Falealili, Aleipata and Fagaloa. The ice will be sold at WS\$ 1.50 per 100 lb. The Fish Truck will stop at a selected village in each district and fishermen who want to buy ice and sell fish will have to be at these selected places at a prearranged time. The Fish Truck will buy at a fixed price and thereby satisfy the second objective mentioned earlier.

The third objective will be met through the capacity to store fresh fish on ice for an additional one to two days at the Fish Market in Apia and in freezer storage for three to four months. The 1,000 cubic ft. freezer purchased by the Government in 1973 and at present installed at the Fish Market has the capacity to freeze down 2,000 lb of fish every 24 hours and to store 10,000 lb of fish.

* Article kindly provided by the Fisheries Division, Department of Economic Development, Apia, Western Samoa.

Through New Zealand Aid, the Fish Market has also been supplied with a small freezer, cash register, scales and fishboxes, to permit retailing of fresh and frozen fish.

The Fisheries Division will operate the Fish Market and the Fish Truck initially, until sufficient experience has been gained. According to the decision of the Government, the operation can then be handed over to a "Fish Marketing Board" or to a private operator who will hire the premises at a fixed rent and provide the required service to village fishermen, under the control of the Fisheries Division.

3. WORK PLAN

3.1 The Fish Market

Personnel

Manager: Luatua T. Vesi, presently working in the Fisheries Division.

Duties: - Under the direction of the Chief Fisheries Officer to be responsible for the staff, equipment and funds provided for the operation of the Fish Market and the Fish Truck.

- To keep daily accounts for fish bought and fish and ice sold.
- To follow Treasury Department's instruction in the handling of funds provided by the Government for operation of the market.
- To ensure that only fish in a good condition is sold to consumers.
- To keep the Fish Market clean and ensure rapid disposal of fish offal.

Saleswomen (2): (new positions)

Duties: - Under the direction of the Manager, to provide good service to the customers at the sales counter.

- To ensure that fish on display is well iced.
- To register every sale on the cash register.

Casual (1): (from Fisheries Division)

Duties: - Under the instructions of the Manager, to load ice and unload fish.

- To clean fish ready for sale or for freezing.
- To dispose of offal and wash floor and equipment every evening.

Working hours:

<u>Monday to Friday</u>	Manager:	6.00 - 12.00, 1.30 - 5.00
	Saleswomen:	8.30 - 12.00, 1.30 - 4.30
	Casual:	8.00 - 12.00, 1.30 - 5.00
<u>Saturday</u>	Manager:	6.00 - 1.00
	Saleswomen:	8.30 - 12.30
	Casual:	8.00 - 1.00

Working hours per week:

Manager:	54.5 hours
Saleswomen:	36.5 hours
Casual:	42.5 hours

Fish shop opening hours

<u>Monday to Friday:</u>	8.30 - 12.00, 1.30 - 4.30
<u>Saturday:</u>	8.30 - 12.30

Yearly Operating Expenses

<u>Personnel</u>	<u>WS\$</u>	<u>Yearly cost</u> <u>WS\$</u>
1 Market Manager	3,400	
2 Saleswomen at WS\$ 700/year	1,400	
1 Casual	700	
	<u>WS\$ 5,500</u>	<u>5,500</u>

Electricity

1 freezer 1,000 cu. ft.
 11 kw x 100 hours/day =
 110 kwh/day
 110 kwh/day x 365 days x
 WS\$ 0.07/kwh = 2,810

1 freezer 25 cu. ft.
 0.5 kw x 24 hours/day =
 12 kwh/day
 12 kwh/day x 365 days x
 WS\$ 0.07/kwh = 307

2 flake ice machines
 1.2 tons ice/24 hours x
 90 kwh/ton = 108 kwh/day
 108 kwh/day x 200 days x
 WS\$ 0.07/kwh = 1,520

<u>Lights estimated at</u>	<u>400</u>	
	<u>WS\$ 5,037</u>	<u>5,037</u>
	Total	<u>10,537</u>

	<u>WS\$</u>	<u>Yearly cost</u> <u>WS\$</u>
<u>Depreciation</u>	Total b/f	10,537
1 freezer valued at	5,000	
1 freezer valued at	500	
2 ice machines valued at	6,000	
Scales, etc, valued at	<u>500</u>	
	<u>12,000</u>	
Depreciation over 10 years = WS\$ 1,200/year		1,200
<u>Interest</u>		
9% on capital invested		<u>1,080</u>
	<u>Total yearly cost WS\$</u>	<u>12,817</u>

Revenue

Sale of fish

Weekly:	4,000 lb of fish with a mark-up of WS\$ 0.06 per lb =	240
	5,000 lb of ice at WS\$ 1.00/100 lb =	<u>50</u>
	WS\$	<u>290</u>
	WS\$ 290 per week x 50 weeks =	14,500
	<u>Total yearly revenue WS\$</u>	<u>14,500</u>

Fish prices:Buying price of fish at the Fish Market in Apia:¹Group 1 - WS\$ 0.39 per lb

Filoa	(<u>Lethrinella miniata</u>)	- Long-nosed emperor
Snapper		
Malai	(<u>Lutjanus malabaricus</u>)	- Scarlet sea perch
Utu	(<u>Aprion virescens</u>)	- Green job fish
Palumalau	(<u>Etelis carbunculus</u>)	-
Papa	(<u>Epinephelus fasciatus</u>)	
Palusina	(<u>Aprion microlepis</u>)	- Rosy job fish
Malauli	(<u>Carangidae</u>)	- Trevally
Sapatu	(<u>Sphyraenidae</u>)	- Small barracudas
Sa'u	(<u>Makaira audax</u>)	- Marlin
Taufauli	(<u>Caranx ferdau</u>)	

1. Latin names as determined by the Project Leader, SPC Outer Reef Fisheries Project, when based in Western Samoa, and by the Fisheries Division, Western Samoa.

Group 2 - WS\$ 0.34 per lb

Atu	(<u>Katsuwonus pelamis</u>)	- Skipjack
Asiasi	(<u>Thunnus albacares</u>)	- Yellowfin tuna
Tagi	(<u>Gymnosarda unicolor</u>)	- Dog tooth tuna
Kavalau	(<u>Auxis thazard</u>)	- Frigate mackerel
Masimasi	(<u>Coryphaena hippurus</u>)	- Dolphin fish
Anae	(<u>Srializa canaliculatus</u>)	
Atule	(<u>Selar crumenophtalmus</u>)	- Purse-eyed scad bream
Palutalatala	(<u>Ruvettus pretiosus</u>)	- Castor oil fish
Gatala	(<u>Epinephelus tauvina</u>)	
Ume	(<u>Naso unicornis</u>)	
Fuga	(<u>Thalassoma sp.</u>)	

Prices are for whole, ungutted fish up to 20 lb. For fish larger than 20 lb the fish will be bought gutted and cleaned, without the head, and cut into pieces of around 5 lb weight.

Mark-up: WS\$ 0.06 per lb for both groups.

Sale price: Group 1 - WS\$ 0.45 per lb.
Group 2 - WS\$ 0.40 per lb.

The sale prices are based on surveys conducted by the Japanese Overseas Co-operation Volunteer during the last half year. The prices are the average prices at which fish is sold at the New Market. Considerable variations occur, which means that when much fish is coming into the New Market the prices there will be lower than at the Fish Market. When the supply is short, the prices will be higher. The presence of the Fish Market will, therefore, tend to stabilize the price which will be of considerable advantage both to the consumer and the fisherman.

3.2 The Fish Truck

Personnel

Fish Buyer: (Until a new position is established, this can be done by JOCV Marketing volunteer)

- Duties:
- Under the control of the Manager to be responsible for the sale of ice and purchase of fish by the Fish Truck.
 - To ensure that only fish in good condition is bought.
 - To keep an account of ice sold and fish bought, and to present these accounts to the Manager for control of cash and weighing of fish.

Driver: (Until a new position is established, this can be done by present driver at Fisheries Division)

- Duties:
- Under the control of the Manager, to be responsible for the safe driving and correct maintenance of the Fish Truck.
 - To assist in loading and unloading of fish and ice.

Casual: (Utilize existing casual at the Fisheries Division).

Duties: - To assist in loading and unloading of the Fish Truck.

Working hours:

Monday, Wednesday, Friday 6.00 - 5.00

Tuesday, Thursday, Saturday 6.30 - 12.30

Working hours per person per week: 51

Fish Truck Schedule:

Monday, Wednesday, Friday

<u>District</u>	<u>Village</u>	<u>Time of Arrival</u>	<u>Time of Departure</u>
Apia			6.30
Lefaga	Savaia	7.40	8.20
Safata	Fausaga	8.50	9.30
Falealili	Poutasi	10.00	10.40
Aleipata	Turtle Hatchery	11.50	12.30
Apia		4.00	

Tuesday, Thursday, Saturday

<u>District</u>	<u>Village</u>	<u>Time of Arrival</u>	<u>Time of Departure</u>
Apia			7.00
Fagaloa	Salimu	8.30	9.00
Apia		10.30	

Yearly Operating Expenses

<u>Personnel</u>	<u>WS\$</u>	<u>Yearly cost</u>
		<u>WS\$</u>
Fish Buyer	1,600	
Driver	1,100	
Casual	900	
	<u>WS\$ 3,600</u>	<u>3,600</u>

Truck

Assuming WS\$ 0.20 per mile for diesel fuel, maintenance and depreciation

Mileage per week = 420,

Mileage per year $420 \times 50 = 21,000$ miles

Cost of truck 21,000 miles \times WS\$ 0.20/mile =

WS\$ 4,200	<u>4,200</u>
Total	<u>7,800</u>

Revenue:

Fish bought per week: 3,500 lb.	<u>WS\$</u>
Fish bought per year: 3,500 x 50 = 175,000 lb/year	
Mark up per lb. = WS\$ 0.04	
Sale of fish WS\$ 0.04 x 175,000 =	7,000
Transport of ice WS\$ 0.50 per 100 lb.	
Assuming 4,000 lb ice per week =	
200,000 lb/year, 2,000 x WS\$ 0.50/100 lb. =	<u>1,000</u>
<u>Total yearly revenue</u>	WS\$ <u>8,000</u>

Mark-up: WS\$ 0.04 per lb for both groups

Buying price: Fish Group 1 - WS\$ 0.35 per lb.

Fish Group 2 - WS\$ 0.30 per lb.

During the first months of operation it will probably be necessary to pay the fishermen cash when they deliver the catch to the truck in order to gain the necessary confidence. However, it would not be prudent to continue carrying as much as WS\$ 600 in cash on the Fish Truck, and any payment should, therefore be payable by voucher, to be presented to the Manager at the Fish Market in Apia.

4. FUTURE DEVELOPMENT

The organization and price structure of the Fish Marketing Scheme should be reconsidered in the light of the experience gained during the first six months of operation.

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