

Appendix 1

TRAINING COURSE FOR FISH MARKETING PERSONNEL OF TAMIL NADU

List of Participants

Mr. R. Rajamanickam	Chief Executive Officer Fish Farmers Development Agency Madurai
Mr. T. Arumugam	Deputy Manager (Marketing) TNFDC Madras
Mr. N. Karuppanan	Deputy Manager TNFDC Bhavanisagar
Mr. R. Kannan	Assistant Director of Fisheries Madras
Mr. K. Subbiah	Assistant Director of Fisheries Madurai
Mr. S. Pandurangan	Assistant Director of Fisheries (Inshore Fishing Station) Madras-600 013
Mr. T. P. Chandrasekaran	Inspector of Fisheries TNFDC Mandapam
Mr. T. Jayaseelan Jeevanantham	Inspector of Fisheries TN FDC Madurai
Mr. P. C. Ezekiel	Inspector of Fisheries TNFDC Coimbatore
Mr. D. Dhakshinamoorthy	Inspector of Fisheries TNFDC Tirunelveli
Mr. R. Neelakantan	Inspector of Fisheries TNFDC Madras-600 006
Mr. N. Innocent Lee	Inspector of Fisheries inshore Fishing-Station Cape Comorin

Mr. B. Ranganathan	Inspector of Fisheries Madras-600 006
Mr. R. Venugopal	Inspector of Fisheries MDFCF Madras-600 013
Mr. P. Viswanathan	Inspector of Fisheries Fish Farmers Development Agency Trichy
Mr. M. Swamidoss	Co-operative Sub-Registrar Coimbatore
Mr. Ananis V. Rayan	Co-operative Sub-Registrar Tuticorin
Mr. Thangamani Gurunathan	Inspector of Fisheries TNFDC Madras-600 006
Mr. M. V. Kesavelu	Inspector of Fisheries Fisheries Staff Training Institute Madras-600 024
Mr. S. K. Rangaswamy	Sundakkampalayam Coimbatore
Mr. A. Diraviam	Inspector of Fisheries Kanyakumari
<i>Staff : Bay of Bengal Programme</i>	
Mr. M. T. Nathan (RAS/040/SWE)	Fish Utilisation and Distribution Specialist
Ms. L. Venkataraman	Secretary
<i>Consultants</i>	
Mr. John Marjoribanks	Senior Management Training Officer White Fish Authority Industrial Development Unit Hull, UK.
Mr. R. J. A. Nicholson	Management Accountant White Fish Authority Industrial Development Unit Hull, U.K.
Mr. Barry V. Lanier	Fishery Economist Los Angeles, California U.S.A.
Col. Nirmal Singh	Administrative Staff College of India Hyderabad

Appendix 2

**TRAINING COURSE FOR FISH MARKETING
PERSONNEL OF TAMIL NADU**

Programme

03.12.79

08.30 Inauguration :
Introduction and registration
10.00 Presentation of business management game and briefing on game procedures.
13.00 Setting-up period of the business game.

04.12.79

08.30 Business game : Setting-up period (continued)
10.30 Lecture : Marketing Management-J. Marjoribanks
13.00 First period of the business game

05.12.79

08.30 First period of the business game (continued)
10.30 Lecture, Film : Accounting I-R. Nicholson
13.00 Second period of business game

06.12.79

08.30 Second period of business game (continued)
13.00 Lecture/Film : Accounting II-R. Nicholson
15.00 Third period of business game

07.12.79

08.30 Third period of business game (continued)
13.00 Lecture : Consumer preference and demand for fish-Nirmal Singh

08.12.79 Field trip

10.12.79

08.30 Fourth period of business game
13.00 Lecture : Marketing facilities-M. T. Nathan
15.00 Fourth period of business game (continued)

11.12.79

08.30 Fifth period of business game
13.00 Lecture : Sales systems and pricing-B. V. Lanier

12.12.79

- 08.30 Lecture : Market research, with specific reference to small-scale fisheries-Nirmal Singh
13.00 Evaluation of business game
13.12.79 Group discussions on marketing problems

14.12.79

- 08.30 Course evaluation
11 .00 Presentation of certificates and closing

Appendix 3

A BUSINESS MANAGEMENT GAME FOR THE MARKETING OF FISH

Participants' Manual

The manual distributed to participants in the training course supplied the basic data required for the business game. The manual is reproduced below.

1. General Introduction

- 1.1. This is a management training exercise for fish marketing designed to be operated with a number of teams.
- 1.2. The teams, representing the management of competing fishery co-operatives in a far-eastern country (country profile and map on pages 20 and 21 respectively), are required to make executive decisions on matters relating to marketing, storage, placement of sites, purchasing, processing and finance.
- 1.3. The teams are expected to improve the financial position of their particular co-operative. The co-operative is in a poor financial situation due to previous bad management of the marketing and distribution aspects of the business.
- 1.4. Decisions are made once each period. The exercise will last for 5 periods, in addition to which there will be an initial period for the setting up of starting conditions.
- 1.5. Participants should remember that objectives must be formalised prior to the start of the game. Discussions on attainment of these objectives will take place at the end of the game in order to ascertain the degree of success of each co-operative.

Co-operative objectives may take many forms :-

- profit maximisation
- cost minimisation
- maximising market share
- providing food for the lower income groups
- providing employment.

2. Availability and Species

2.1. The total amount of fish available to the co-operative at present averages 400 tonnes per period

2.2. Recently granted loans have enabled the fishing fleet to become more mechanised. This will result in an increasing trend in the catch rate, with an expected availability of 1,000 tonnes in the fifth period. However, it is expected that climatic conditions will result in an approximate 20 per cent drop in the catch during the third period.

2.3. There will be two species of fish in the game. These are groundfish and shellfish. Of the 400 tonnes at present landed per period 355 tonnes are groundfish, and 45 tonnes are shellfish

3. Personnel

3.1. Administrative personnel are not considered explicitly, their salaries being regarded as a fixed cost throughout the duration of the game. The labour force personnel are interchangeable e.g. labour employed in fish markets can be transferred to the drying/salting plant etc.

3.2. The labour force consists of skilled and unskilled labourers. The rates of pay are :

	Rs. per period
Skilled	250
Unskilled	150

3.3. Each plant requires a skilled unskilled ratio 1 : 4.

4. Present Situation

4.1 Markets

4.1.1. There is a wholesale market in the coastal city which sells fresh groundfish and dried/salted groundfish. The market employs 50 labourers, 30 unskilled and 20 skilled.

A rent of Rs. 3,00,000 per period is charged for the wholesale market,

4.1.2. There is also an export market for frozen shellfish.

4.2 Plants

All the plants are situated in the coastal city.

4.2.1. The **ice making plant** can supply all needs during the course of the game. The ice is bought at a transfer price of 1 rupee per kilo. Ice is only used for the transportation of fresh fish and the required weight ratio of ice to fish is 1 : 1.

4.2.2. The **drying/salting plant** deals solely with groundfish. The plant produces 80 tonnes per period, this requires an input of 100 tonnes. The maximum capacity of the plant is 160 tonnes per period, which requires an input quantity of 200 tonnes.

The labour requirement is for one unskilled labourer for every 2 tonnes of input. Hence, for **each** 8 tonnes of input there is a labour requirement of 4 non-skilled labourers and 1 skilled labourer. At present 50 non-skilled and 13 skilled labourers are employed.

The plant has overheads of Rs. 20,000 per period and running costs of Rs. 1 per kilo input.

4.2.3. There is a freezing plant which freezes shellfish. All the produce of this plant is exported.

The plant at present freezes a total input of 45 tonnes per period, all of which is shellfish. The capacity of the plant is 140 tonnes input per period.

The labour requirement is for one unskilled labourer for each tonne of input. Hence, for each 4 tonnes of input there is a labour requirement of 4 unskilled labourers and 1 skilled labourer.

At present 13 skilled labourers and 50 unskilled labourers are employed.

The plant has overheads of Rs. 2,00,000 per period and running costs of Rs. 5 per kilo input.

4.2.4. A cold storage plant operates alongside the wholesale market. The plant has a **capacity** of 200 tonnes and overheads of **Rs. 3,00,000** per period.

4.3 Vehicles

4.3.1. The co-operative owns 2 vehicles which have a running cost of Rs. 1 per kilo carried.

4.3.2. Each vehicle requires 2 drivers who are classed as skilled.

4.3.3. Each vehicle is purchased at a price of Rs. 2,00,000. The vehicles can be sold for Rs. 1,50,000 during the course of **the** game.

4.4 Boxes

4.4.1. The boxes used for transporting the fish have a capacity of 30 kilos, representing both fish and ice.

4.4.2. Each box **costs 5** Rupees.

4.4.3. Two hundred of these boxes can be carried **by each** vehicle.

4.4.4. The co-operative owns 500 of these boxes.

4.5 Financial Position

4.5.1. The co-operative's current financial position is badly affected **by** large wastage figures. This is primarily due to a lack of exploitation of inland sites.

4.5.2. A profit and loss statement for the present position of **the** co-operative is shown below :-

Period 0

Revenue from Sales		Rs.
Fresh Groundfish	(125,000 kilos @ 10 Rupees)	12,50,000
Dried/Salted Groundfish	(30,000 kilos @ 8 Rupees)	240,000
Frozen Shellfish	(45,000 kilos @ 60 Rupees)	27,00,000
		<u>41,90,000</u>
 Cost of Goods Sold :		 Rs.
Opening Stock		650,000
Cost of Goods Produced :	Raw Material	3,300,000
	Processing Costs	331,500
	Storage Costs	23,500
Wholesale Market Labour Costs		13,000
Closing Stock		<u>1,295,000</u>
		3,023,000
Wastage for Period*		<u>400,000</u>
		3,423,000
	Gross Margin	<u>767,000</u>
 Other Expenses :		 Rs.
Administration		520,000
Promotion		27,600
Distribution		2,500
Rent for Coastal Site		<u>300,000</u>
		850,100
	Profit (Loss) before Tax	(83,100)
	Tax Provision on Profit	—
	Interest Provision on Overdraft	—
		<u>(83,100)</u>

*Wastage due to stocks being kept for longer than one period should not be entered here, as any wastage of this kind will also appear as part of opening stock.

4.5.3. The co-operative's balance sheet is shown **below** :

Balance Sheet as of Period 0

Liabilities	RS.	Assets	Rs.
Equity	4,897,500	Blast Freezer	600,000
		Cold Store	700,000
		Processing Plant	400,000
		Ice Plant	1,000,000
		Vehicles	400,000
		Boxes	2,500
		Closing Stock	1,295,000
		Cash	500,000
	4,897,500		4,897,500

5. Decisions to be Made During The Setting Up Period

5.1. Markets

5.1.1. The co-operative has to make the decision on whether or not to open inland city and rural wholesale markets with cold storage facilities. If the co-operative decides to open the markets then a decision has to be made about the siting of such markets. Note that only one inland and/or one rural market may be chosen.

5.1.2. The city market will be situated in city B and a choice of three sites is available. A map showing the positions of these sites is enclosed.

5.1.3. There exist three rural centres (towns C, D and E) which have yet to be exploited in terms of fish sales. A wholesale market and chill store can be set up in anyone of these three **towns**.

5.1.4. The following descriptions of the six sites are available :

City Site 1

This site is situated on the main road to the coastal city and has, therefore, good distribution links. It is part of a large housing area in the city.

Rent : 13,000 Rs./Period.

City Site 2

This site is situated 2 km from the central railway station, in the city centre. It is also close to the main wholesale meat market and it is believed that competition may occur in both directions, i.e. consumers being drawn from the meat market to the fish market and vice versa.

Rent : 15,000 Rs./Period.

City Site 3

Near the industrial heart of the city, where the majority of the city residents are employed, the site is also in a prime position for access to rural areas with the main central highway passing within 3 kilometres.

Rent : 14,000 Rs.; Period.

Rural Town C

The town is situated in the southern foothills of the Northern Highlands. It is part of the main tea growing area in the west of the island.

Rent : 5,000 Rs./Period.

Rural Town D

Although in the lowest population density region the town itself is situated approximately 10 km north of the main central highway, thus providing good distribution links,

Rent : 5,000 Rs./Period.

Rural Town E

Situated closest to the coast, town E suffers from bad road surfaces in the monsoon period. Road transportation is possible to the coast for 2.3 of the year. Relatively good links do, however, exist between the town and the inland city.

Rent: 5,000 Rs /Period.

5.1.5. The Government have requested that a Market Evaluation be completed for the six prospective wholesale market sites.

Studies were undertaken to determine the number of people living within two kilometres of each city site and within five kilometres of each rural site. The residents were then categorized into four social classes by income (Table 1). These are thought to be major factors in the determination of fish sales.

Market Research studies have revealed that between 14 and 18 per cent of income is likely to be spent on fish produce although it has been discovered that different income groups have different fish preferences. A table of rankings (Table 2) has, therefore, been included showing, by income group, the relative preference for fish on a preference scale out of 10. Thus, for income group A, fresh groundfish is highest with 5 whereas dried/salted fish has little appeal

It is believed that this information will enable fishery co-operatives to determine estimates of consumer expenditure on fish at all sites included in the study.

Table 1

Income Group	No. of People Within 2 km of City Sites			No. of People Within 5 km of Rural Sites		
	1	2	3	C	D	E
A-above Rs. 1,800 per period	5500	5000	4250	300	240	400
B-Rs 600 to Rs. 1,800 per period	10200	10200	10600	2000	1700	1920
C- Rs. 300 to Rs. 600 per period	13000	14000	14600	6000	6200	5600
D-below Rs. 300 per period	8400	13000	14000	5000	5200	5500

Possible Market Locations In City 'B'

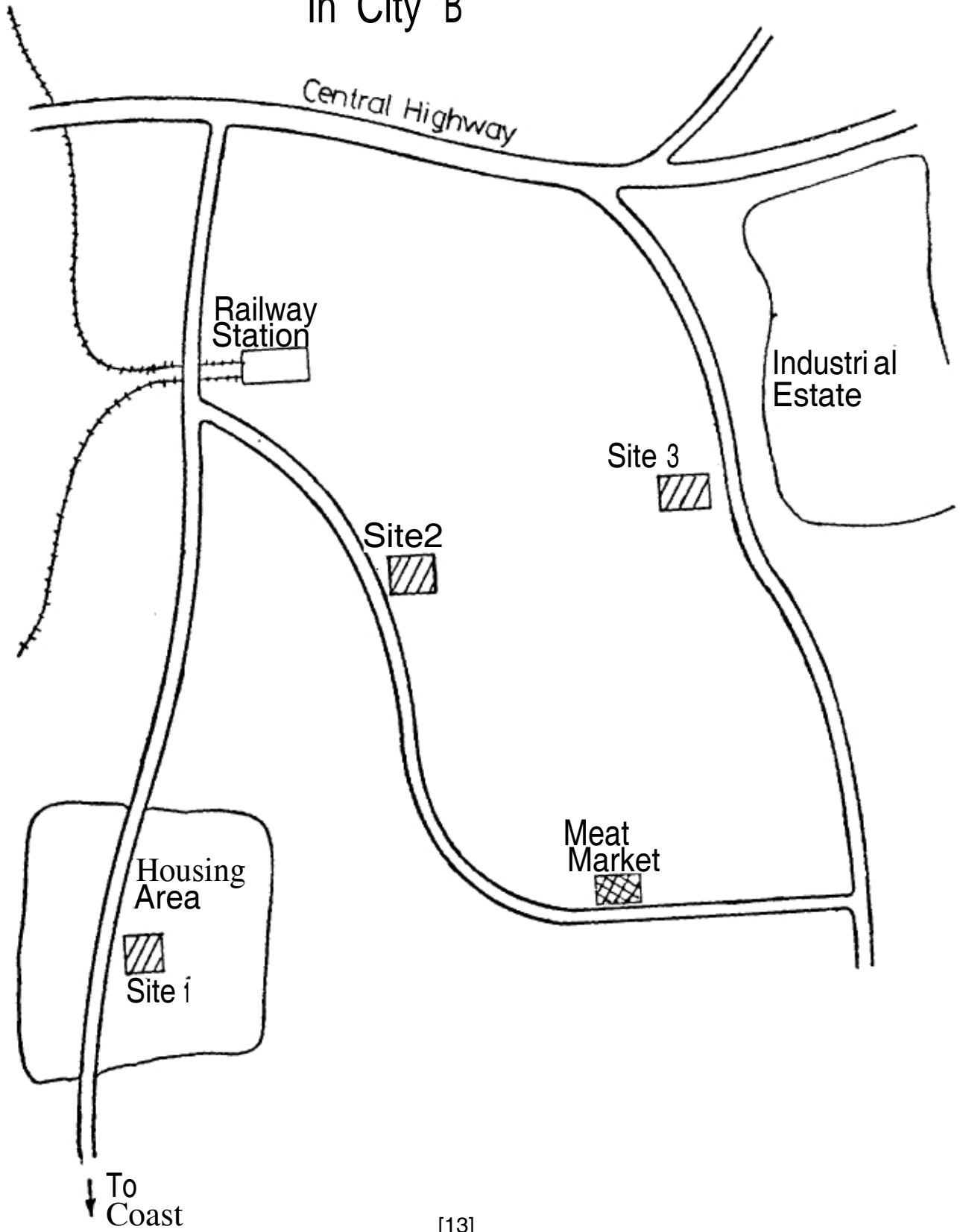


Table 2

Income Group	Banking by Fish Product	
	Fresh Groundfish	Dried/Salted Groundfish
A	5	3
B	5	4
C	6	4
D	6	6

5.1.6. Market Forecasts

The Government have also commissioned a further survey into Market Sales Potential. This takes the form of general market forecasts for the coastal city, inland city, rural areas and export market.

It is believed sales will lie in the following ranges:-

	Coastal City (‘000 Kilos)	Inland City (‘000 Kilos)	Rural Area (‘000 Kilos)	Export (‘000 Kilos)
Fresh Groundfish	100-200	115-250	20-39	—
Dried/Salted Groundfish	10- 20	10- 27	25-37	—
Frozen Shellfish	—	—	—	35-100

it should be noted that the above estimates relate to one co-operative operating in any particular market. However, sales will depend on prices, promotional expenditure, competitive effect of other co-operatives and market fluctuations.

5.1.7. On each of the sites chosen, i.e., on the city site and on the rural site, a chill store is required. A choice is available between three types of store :-

Store	Overheads per period Rs.	Capacity (tonnes)	cost Rs.
a	15,000	50	360,000
b	30,000	100	500,000
c	50,000	200	700,000

Fish may be kept in chill store for only one period, i.e., fish placed in store in one period must be sold in the following period ; otherwise it will get wasted.

Note that there is an opening stock of fish-fresh groundfish, dried salted groundfish-at the beginning of the exercise. Closing stock values for the purpose of the exercise are :--

Fresh groundfish	5.0 Rupees
Dried salted groundfish	7.0 Rupees
Frozen shellfish-	30.0 Rupees

5.1.8. It may be assumed that each site has sufficient space to accommodate a wholesale market and any one of the chill stores.

Labour for each Wholesale Market is fixed at 10 skilled and 30 unskilled labourers which represents a cost of Rs. 6,500 per market period. The labourers are automatically employed when the market is set up.

5.2. Vehicles

5.2.1 The co-operative can purchase a number of vehicles at a cost of Rs 200,000 per vehicle.

5.2.2. Each vehicle can make up to five return trips per period from the coastal city to any destination.

5.2.3. Additional vehicles can be purchased during the course of the game.

5.2.4. The vehicles can be sold during the game at Rs. 150,000 per vehicle, irrespective of the vehicle's age.

5.3. Boxes

5.3.1. The co-operative can purchase boxes of the type mentioned in section 4.4.

5.3.2. All fish is transported in boxes but is stored loose.

5.4. Professional

5.4.1. A decision has to be made in the setting-up period as to whether a professional should or should not be engaged (as mentioned in section 3.3.)

5.5. Loans and Overdrafts

5.5.1. Facilities exist for loans to be obtained during the setting-up period to purchase new vehicles and cold storage plants. Any loan obtained is not required to be repaid during the course of the game although an interest levy of 5 per cent is charged each period.

5.5.2. Overdraft facilities also exist and will be incurred automatically should a negative closing balance arise on the cash summary statement. An interest levy of 5 per cent will be charged in the next period on any overdraft.

6. Decisions to be made during the course of the game

6.1. Auction

6.1.1. Quantities of fish may be obtained from an auction. These quantities will be additional to those obtained from the fishermen who normally supply the co-operative.

6.1.2. To obtain fish from the auction the co-operative must enter the price and quantity desired on the Fish Availability Report, form 1.

6.1.3. The co-operative offering the highest price above the reserve price will obtain the fish it requires. If its requirement is not for the total quantity, then the co-operative offering the next highest price will obtain its requirement and so on until

- (i) all the fish is sold
- or (ii) there is no co-operative left in the auction offering a price above the reserve price.

6.2. Personnel

6.2.1. The co-operative should enter on the Personnel Report, form 2, the number of people it wishes to recruit and the number of people it wishes to make redundant.

6.2.2. The recruitments and redundancies will be made before the beginning of the following period.

6.2.3. It should be remembered that there are specified labour requirements for the plants. therefore the co-operative should plan ahead.

6.3. Processing

6.3.1. A decision has to be made on how the catch is processed, i.e., how much groundfish is dried/salted.

6.3.2. The quantities to be processed should be entered on the Processing Report, form 3.

6.4. Distribution

6.4.1. After processing a decision has to be made on the way in which the fish is to be distributed.

6.4.2. In taking this decision the co-operative should remember that there are certain requirements regarding the-ice-to fish ratio for the transportation of fresh fish.

6.4.3. It should also be remembered that each vehicle has a limited carrying capacity and that the co-operative owns only a certain number of vehicles and boxes. The number of vehicles and boxes owned in a particular period are shown on the previous period's Equipment Replacement Report, form 6.

6.5. Marketing

6.5.1. When the distribution pattern has been decided upon a **marketing strategy** should be developed.

6.5.2. The price and promotional expenditure for the various types of fish in the different markets should be entered on the Marketing Report, form 5. It should be noted from the Profit and Loss Report at period O how much was spent on promotion for the coastal market during that period. It should be noted that promotional expenditure is in multiples of Rs. 250 only, with maximum expenditure of Rs. 17,500.

6.6. Storage

6.6.1. The opening stock of the chill stores is equal to the closing stock in that chill store in the previous period.

6.6.2. If sales of a type of fish in a particular market are less than the opening stock then wastage will occur. This is due to the fact that fish may only be kept in store for one period. Wastage will also occur if there is insufficient cold storage capacity.

6.6.3. If fish is stored in a chill store then, during the next period, it must be sold in the market adjacent to that cold store, i.e. it cannot be transported after it has been in cold storage.

6.6.4. Fish cannot be stored in the cold store in one period and then dried/salted or frozen in the next period.

6.6.5. Dried/salted groundfish is not stored in cold store and hence no storage cost is incurred.

6.6.6.

FISH STORAGE REPORT FOR PERIOD O

	FRESH GROUND FISH		DRIED/SALTED ¹ GROUND FISH		FROZEN SHELLFISH	
	KILOS	Rs. VALUE	KILOS	Rs. VALUE	KILOS	Rs. VALUE
A	130,000	650,000	0	0	0	0
B	385,000		90,000		45,000	
C	125,000		30,000		45,000	
D	175,000	875,000	60,000	420,000	0	0
	5,000		0		0	0
F	80,000	400,000			0	0
G	85,000		0		0	

A

B

C

D

F

G

1. Dried/Salted Product does not enter cold storage.

2. If A-C is positive. If C is greater than A, then Closing Stock is B-C and wastage is zero (if there is sufficient cold storage capacity). However, if C is less than A the wastage resulting from sales being less than Opening Stock is A-C and, thus, Closing Stock is B-C-E (if there is sufficient Cold Storage Capacity)

6.6.7. If there is insufficient cold storage capacity the wastage entered on the storage report should be wastage of the fish with the least value i.e. groundfish.

6.7. Equipment Replacement

6.7.1. The number of vehicles and boxes to be bought or sold should be entered on the Equipment Replacement Report, form 6.

6.7.2. Vehicles are bought at Rs. 2,00,000 each and sold at Rs 150,000 each. The loss on sale may be calculated as follows :-

Number of Vehicles sold	=	1
Loss on Sale	=	Rs. 2,00,000-Rs. 150,000
	=	Rs. 50,000

This figure should be entered on form 8 as shown.

6.7.3. Large boxes are bought at Rs. 5 each.

6.8. Cash Summary Report (form 9)

6.8.1. Sources of Cash

The Opening Cash Balance consists of the Closing Cash Balance from the previous period, Thus, in period 1, the Opening Balance will be Rs. 500,000.

Income from Sales of fish is obtained directly from the Marketing Report (form 5).

Cash Received from sales of vehicles is obtained from the Equipment Replacement Report (form 8).

6.8.2. Uses of Cash

Cost of Goods produced is as stipulated by the breakdown of expenses on form 9. The most important point to note is that "Storage Costs " which are not charged on dried/salted product are charged on all other closing stocks.

Administration overheads consist of Rs. 30,000 for the coastal cold store, Rs. 200,000 for the freezing plant and Rs. 20,000 for the processing plant. Further overhead expenses will be incurred on inland city and rural chill store facilities depending on the size of cold store chosen (see section 5.1.7.) ; also included are market rental charges-Rs. 300,000 for coastal market and appropriate rental for city site 1, 2, 3, and rural site C, D, E. (See section 5.1.4.)

Promotional Expenditure is given on the Marketing Report (form 5).

Distribution Expenses and ice charges are obtained from the Distribution report (form 4).

Interest on any bank loan obtained is payable each period but, as stipulated in section 5.5.1, the loan itself is not repayable during the course of the game.

Rent is payable by period on all sites as detailed in sections 4.1.1, and 5.1.5.

Purchases of new boxes and vehicles are shown on form 8. It should be noted that this does not include vehicles and boxes purchased from loan capital.

Interest payable on any overdraft and tax dues are shown in the Profit and Loss Report from the **previous** period.

Any overdraft which is incurred in the previous period may be repaid in the following period and is hence entered as an expense. The co-operative may, however, decide to repay an overdraft at a later date and so incur further periodic interest charges.

The Closing Cash Balance (if positive) is entered on the Balance Sheet (form 11).

6.9. Profit and Loss Report (form 10)

Total Revenue from fish sales and the Cost of Goods Produced are outlined in Section 6.8.1. Opening and Closing Stocks have been discussed in detail in Section 6.6.

The wastage figure entered is composed solely of that amount arising from the lack of capacity of cold storage facilities. It does not include wastage arising from stock being kept for longer than one period as this has already been accounted for in the Opening Stock.

Losses on sale of equipment may be directly obtained from form 8

It must be noted that items 6 and 7 (tax and interest provisions) are purely allowances which are set **aside** to be paid in the next period and should be entered on the Balance Sheet (form 11) as shown. The Net Profit should be transferred **to** the Balance Sheet as Retained Profit. This does **not** occur in the case where losses are made.

6.10. Balance Sheet (form 11)

The co-operative should complete the Balance Sheet incorporating any increase or decrease in assets which have occurred during the period. It should be noted that the value at cost of both vehicles and boxes available for the next period should be entered as shown.