

OPERATIONAL BUDGET FOR THE CEYLON FISHERIES CORPORATION (CFC)

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ABSTRACT

Budgeting is considered to be one of the most important management tools to steer an organisation, evaluate its performances and motivate its people. Ceylon Fisheries Corporation (CFC) prepares its annual budget, but these annual budgets are not helping the organisation to survive in a competitive market. Budgets are short lived so they should be studied periodically. In such situations annual budgets are under question for their effectiveness. In Sri Lankan fisheries the fish catches are seasonal and the market is very competitive. In this study an operational budget with monthly breakdowns is introduced. The sensitivity of the total sales prices, total cost of raw material and the salaries to the changes are analysed and studied. Purchase prices and sales prices are the most important influential factors to the profitability of CFC. Using operational budgets with monthly breakdowns will help the corporation to monitor performance, even within a month and managers can take immediate action to operate CFC successfully.

TABLE OF CONTENT

1	Introduction.....	4
1.1	Fishing grounds.....	4
1.1.1	Impact of the Indian Ocean Tsunami 2004 on fisheries in Sri Lanka ...	6
1.2	Ceylon Fisheries Corporation (CFC).....	6
1.2.1	The organisational structure of the Ceylon Fisheries Corporation	8
1.3	Research question	9
2	Methodology and Data.....	10
2.1	Budget plan analysing and planning model	10
2.2	Sensitivity analysis.....	12
2.3	How the CFC calculates the selling price of fish.....	12
3	AnalySes	12
3.1	Weight loss.....	22
3.2	Tuna prices.....	22
3.3	CFC staff and the salaries	24
3.4	Planning of the budget	24
3.5	Sensitivity test results	26
4	Discussion.....	28
4.1	How can the CFC react on the budget?	28
4.2	Is the CFC ready for periodic budgeting?.....	28
5	Conclusions.....	29
	ACKNOWLEDGEMENTS	30
	LIST OF REFERENCES	31
	APPENDIX.....	33
	Appendix 1: Raw material purchase prices- 2005	33
	Appendix 2: Fish catch	37
	Table 1: Fish Catch (from 1996 to 2004 in Tonnes).....	37
	Table 2: Marine fish catch by main species groups (tonnes).....	37
	verity 38	
	Table 3: Marine Fish Catch by Fisheries districts (before Tsunami – in Tones).38	

LIST OF FIGURES

Figure 1: Maritime zones and EEZ of Sri Lanka (MFAR 2006b).....	5
Figure 2: The organisational structure of the CFC.	9
Figure 3: Effects of changes in the prices of sales, raw material and salaries on the profits of CFC.	27

LIST OF TABLES

Table 1: Territorial waters total catch and estimated potential yield in Sri Lankan waters (MFAR 2006b).	5
Table 2: Utility value rates used for calculating selling price.	12
Table 3: Monthly purchases of fish at the East Coast according to species, in tonnes.	13
Table 4: Monthly purchases of fish at the West Coast according to species, in tonnes.	14
Table 5: Total monthly purchases of fish at East and West Coasts in tonnes.	15
Table 6: Monthly purchase prices of fish at the East Coast in USD/kg.	16
Table 7: Monthly purchase prices of fish at the West Coast in USD/kg.	17
Table 8: Estimated sales prices of fish in USD/kg.	18
Table 9: Cost of raw material purchased at the East Coast in USD.	19
Table 10: Cost of raw material purchased at the West Coast in USD.	20
Table 11: Sales value of fish in USD.....	21
Table 12: Weight loss in fish handling and the approximate mark-up.	22
Table 13: Expected sales quantity after the weight loss in tonnes.....	23
Table 14: Planning budget for 2007.....	25
Table 15: Sensitivity analysing with the net profits.....	26

1 INTRODUCTION

Sri Lanka is an island located in the Indian Ocean. The people of the island exploit fish stocks and other resources from the Indian Ocean. The annual sustainable yields from the coastal sub sector have been estimated at 250,000 tonnes, consisting of 170,000 tonnes of pelagic species and 80,000 tonnes of demersal species. The actual reported coastal fish production in 2004 was 154,470 tonnes. About 610 species of coastal fish have been reported from the Sri Lankan waters. The more common species caught are *Sardinella spp.*, *Amyblygaster spp.*, *Rastrelliger spp.*, *Auxis thazard*, *Anchova commersoni* and *Hirudichthys coromandelensis*. Most of these species live near the surface or high in the water column (pelagic species). These small pelagic species account for about 40% of the coastal fish catch. Species such as *Lethrinus spp.*, *Trichurus spp.*, *Caranx spp.*, species of skates and rays, *Cynoglossus spp.*, *Jojnius spp.* and *Tolithus spp.* are bottom dwellers (demersal species). In addition, there are various mid-water species (FAO 2006).

Though there are no comprehensive resource studies available for offshore and deep-sea areas, about 90 species of oceanic pelagic species of fish have been reported from Sri Lankan offshore and deep-sea waters. *Katsuwonus pelamis* and *Thunnus albacares* dominate the large pelagic catches. These are migratory fish species and therefore fall under stocks shared with other countries. Other important species are *Scomberomorus commerson*, *Platypterus spp.*, *Telrapturus angustirostris*, *T. audax*, *Makaira nigricans*, *M. indica*, *Xiphius gladius* and *Caryphaens hippurus*. Moreover, it has been reported that about 60 species of sharks live in the oceanic waters of Sri Lanka. Some of the more common shark species are *Carcharias falciformis*, *C. longimanus*, *C. malanopterus*, *Alopias pelagicus*, *Sphyrna zygaena* and *S. lewini*.

About 215 demersal species have been reported from the oceanic waters around Sri Lanka. The commercially important, larger species are *L. lentjan*, *L. nebulosis*, *Lutjanus spp.*, *Pristipomoids spp.* and *Epinephelus spp.* (FAO 2006).

Some surveys have indicated that surface tuna schools are available in areas offshore from the west, south and east coasts, with higher concentrations of fish within the 60 to 70 km range from the shore. Skipjack and yellow fin tuna have dominated the catches. Preliminary results of some trial fishing have indicated an abundance of sub-surface tuna resources within the Sri Lanka Exclusive Economic Zone (FAO 2006).

1.1 Fishing grounds

Sri Lanka has an exclusive economic zone of 517,000 km². The country's continental shelf has an average width of 22 km and covers about 30,000 km². It is 5.8% of the ocean area. The coastline of the country is 1,700 km. (Table 1). Offshore fisheries are those conducted in the areas beyond the continental shelf up to the boundary of the Exclusive Economic Zone (EEZ) and where vessels are at sea for more than 24 hours on a single fishing trip (Figure 1).

Fishing within the EEZ is exclusively reserved for the local fishers. The foreign vessels fishing in international high waters are issued with permits to land their catch in local fishery harbours for processing and re-exporting. They are encouraged to operate in partnership with the Ceylon Fisheries Corporation. Under the United

Nations Convention for the law of the sea, Sri Lanka is also entitled to lodge a claim for an extended area of seabed outside but adjacent to the EEZ, where the thickness of the sediment layer is over 1 km. According to preliminary estimates, once this claim is submitted and accepted, Sri Lanka will gain an extended seabed area of 23 times the land area of the country (FAO 2006).

Table 1: Territorial waters total catch and estimated potential yield in Sri Lankan waters (MFAR 2006b).

	Extent km ²	Current production(Tonnes)	Potential (Tonnes)
Continental shelf	30,000	180,000	250,000
Exclusive Economic Zone(EEZ)	517,000	90,000	150,000
Extra Seabed	1,000,000		

Sri Lankan fishing vessels operate in international waters mainly targeting tuna and other migratory species.

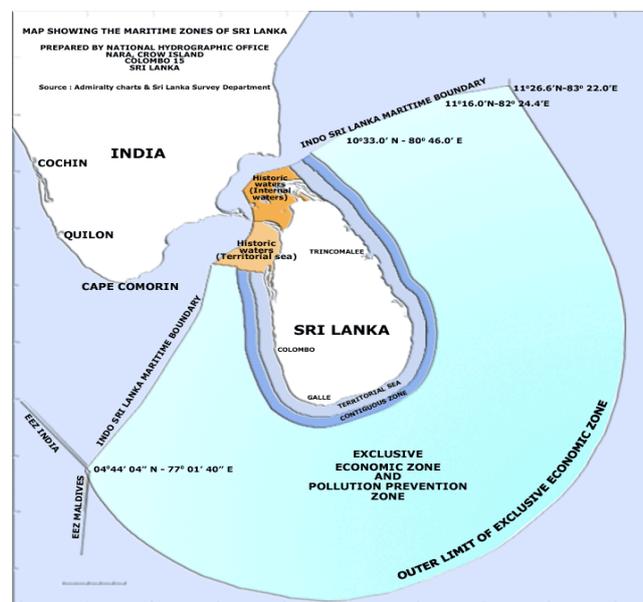


Figure 1: Maritime zones and EEZ of Sri Lanka (MFAR 2006b).

In Sri Lanka there is a high demand for fresh marine fish for the local market. “About 70% of the fresh fish landings are transported to local/urban markets. The fishing industry plays a major role in providing the animal protein so important in the diet of the Sri Lankan population. According to the food balance sheets (Department of census and statistics, Sri Lanka) fish has consistently contributed around 65% of the animal-based protein intake of the population. In addition, as Sri Lanka is a plural-religious and multi-ethnic society, numerous religious and cultural bases and prejudices preclude the consumption of animal flesh, but fish is generally acceptable and hence always in great demand.” (FAO 2006)

A significant characteristic of the fishing industry in Sri Lanka is that it has always been dominated by the private sector. Except for a handful of boats owned by cooperative societies or by the very few private companies, the fishing boats and gear deployed in the industry are owned and operated by thousands of individual fishers,

family units or informal groups. About 95% of the fish is handled by the private sector (FAO 2006).

Earnings from fish exports have shown a steady growth during recent years, although the contribution of this sector to overall external trade remains at about 2%. The country exports mainly fish (both wet and frozen), shrimp, lobster, crab, sea cucumber and shark fins. The main markets are the EU, China, Japan, Singapore and USA. The value of exports increased from USD 36 million in 1995 to USD 94 million in 2004 (FAO 2006).

The quantity exported increased from 7126 mt in 1995 to 13,681 mt in 2004 (the figures include ornamental fish exports, the value of USD 7 million). Shrimp is the major export commodity. It accounts for nearly 40% of total fish export earnings. About 60% of the shrimp production comes from aquaculture, and the balance from capture fisheries (FAO 2006).

1.1.1 Impact of the Indian Ocean Tsunami 2004 on fisheries in Sri Lanka

The Sri Lankan coast was, after Indonesia, one of the most heavily impacted areas in the region. The 2004 Tsunami is the deadliest in recorded history. It is estimated that it generated and released energy equivalent to 23,000 Hiroshima-type atomic bombs, according to the US geological survey (USGS) (National geographic news USA 2004).

In Sri Lanka more than 30,800 people have died and thousands more are still missing. The number of homeless people is estimated at between 800,000 and one million. The international labour organization estimates that at least 400,000 people have lost their jobs (UN FAO 2005). It is estimated that nearly 80% of active fisheries were affected and more than 75% of the fishing fleet was destroyed or damaged by the tsunami. In addition, a large number of small scale fishing crafts and fishing gears were destroyed. Of the 12 fishing harbours, 10 were severely damaged, including breakwaters, shore facilities, buildings, machinery and equipment. In addition, public and private utilities, such as ice plants, landing ports, markets and the homes of the fishing community were destroyed (FAO 2006).

1.2 Ceylon Fisheries Corporation (CFC)

The Ceylon Fisheries Corporation is the only government organisation in fish trading and handles less than 5% of the fish landings. Nevertheless, CFC is the biggest individual trader. CFC has lots of resources, capacity (cold rooms, transportation, storage facilities, processing facilities and trained staff) and a reputed brand name in this trade.

The Ceylon Fisheries Corporation is a fully government owned institution in fish trading. The Corporation was incorporated in 1964 under the industrial Corporation Act no. 49 of 1957 and commenced its commercial operations in 1965. According to the objectives stipulated in the government gazette notification of 1965, the CFC engaged in the following activities (CFC 2006d):

- . Deep sea fishing operations
- . Fish processing (canning, drying and processing)
- . Production and sale of fish on a wholesale and retail basis
- . Import and export of fish and fisheries products
- . Import and sale of fishing gear
- . Construction and maintenance of fisheries harbours
- . Fishing boat construction
- . Providing repair and maintenance facilities for fishing boats
- . Manufacture and sale of fisheries equipment

However at the establishment of the Ministry of Fisheries in 1970, the Ceylon Fishery harbours Corporation in 1972 and the Cey-Nor Foundation in the later part of the 1970s, many of the above activities which were initially carried out by the CFC were devolved to these institutions.

From the 1970s to the present, the activities of the CFC have been limited to the following core areas:

- . Purchase and sale of fish
- . Production and marketing of ice
- . Provision of cold storage and facilities
- . Production and sale of fishery by-products

In the 1980 s the CFC commenced the production of fish fillets at its factory complex in Minneriya using tilapia as raw material.

Ceylon Fisheries Corporation is the main cold storage facilitator for fish in Sri Lanka. The main cold storage in Colombo has facilities for blast freezing, plate freezing and frozen and chill storage. The other regional operational centres also have minor scale freezer storage facilities (CFC 2006d). In Colombo the main cold-room complex has:

Blast-freezing capacity of 20 mt/day up to -40 Celsius.

Plate-freezing capacity of 04 mt /day

Cold storage facility for 1000 mt up to -20 Celsius

Chilled storage facility for 100 mt from -5 to +15 Celsius

The Corporation also has processing facilities. In Colombo the main cold-room complex has about 24 employees. In 2004 it made an annual profit of USD 1500 and in 2005 it has made a loss of USD 1500. In addition to the Colombo cold rooms they are operated in these places in detail as below:

Tangalle	-Cold storage 5 mt	(damaged by Tsunami)
Mirissa	- Cold storage 5 mt	(damaged by Tsunami)
Galle	- Cold storage 5 mt	(damaged by Tsunami)
Gampaha	- Cold storage 5 mt	
Kandy	- Cold storage 10 mt (5*2)	

Bandarawela - Cold storage 5 mt
 Ratnapura - Cold storage 5 mt (damaged)

All these cold rooms use the air blast freezing method. The main freezing method used by CFC. At present 12 containerised cold storage plants are being installed each with a 9 mt capacity, and 11 block ice production plants with the capacity of 10 mt per day. In the town of Galle construction is under way of building a 300 mt cold storage complex and fish processing facility to EU standards. There will also be a 50 mt/day block ice production plant. It will be completed in 2007. Two fish canning factories are to be built. In Galle with the collaboration of a New Zealand company and the other one in Colombo with a Russian company. It is already under construction. Most of the output of these factories will be for export (only about 10% will be sold in the local market) (Sea Food Processor 2006 and CFC 2006d).

The main cold room complex in Colombo will only provide storage and processing facility to private operators on a monthly basis. Cold rooms outside Colombo are only for the storage of fish for CFC trading in the local market. The CFC mainly depends on fish purchasing and fish sales. It makes the main income of the Ceylon Fisheries Corporation. Daily the managers and purchasing officers purchase fish from all around the island. Mostly the purchasing prices depend on the central wholesale prices at the Colombo fish market. The managers should depend on those daily fluctuating prices. CFC has a radio communicating system to link the managers and other officers who are in other purchasing centres. Every morning from 4 a.m. the officers can get the rates from the central fish market.

The selling prices are decided by the managers. Usually it depends on the fish varieties. The highest mark-up goes for fish varieties like crabs, shrimp (prawns), seer fish and squid and the minimum will be applied for sardinella species. The mark-up ranges from 0.6 – 0.2 USD per kg. Fish species like tuna (yellow fin, big eye and skipjack) are in between. The prices are often fixed by the management and may be considered motivate as there is a high demand for tuna and tuna like species.

If considered as a whole these resources around the island, the fishing fleet, the facilities CFC have in hand and the structure of the CFC (Figure 2) is giving a sound platform to carry out a successful business. But unfortunately CFC is making losses and struggling for survival.

1.2.1 The organisational structure of the Ceylon Fisheries Corporation

The chairman is the chief executive of the corporation. There are six members in the board of directors, including the chairman. The vice chairman, working director and three other members are nominated by the Minister of Fisheries and Aquatic Resources. One of the members is a representative from the government treasury.

The senior management is headed by the general manager. Head of the divisions (operations) is directly responsible to the general manager. The other members who are in the senior management are the manager of purchasing and sales, the manager of finance and the chief engineer. Regional management is directly responsible to the head of the divisions (operations). Regional management is headed by the managers responsible for the regional offices. The managers are responsible for maintaining

profitably. They have the authority to run the units as they wish and justify the results to the upper management. The general organisational structure is shown in Figure 2.

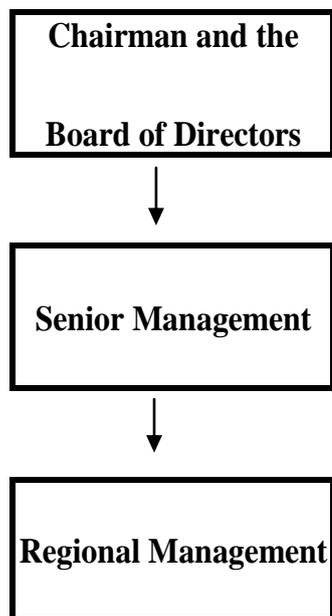


Figure 2: The organisational structure of the CFC.

1.3 Research question

The Ceylon Fisheries Corporation has abundant facilities and opportunities. However, in the recent past the corporation has been run at a loss. Some of the divisions are continuously experiencing losses. The annual reports for 2002-2005 show losses in the operation. The reports are not specific as to where the losses come from. CFC had operational budgets for all these years as well as for 2006 and 2007. The budgets are made for the whole operational year (CFC 2003, CFC 2004, CFC 2005a, CFC 2005b, CFC 2005c, CFC 2006a, CFC 2006b, CFC 2006c). In this project the budget will be broken down to a monthly basis. This is to gain better control over the operation. This is necessary because of the seasonal changes and the migratory patterns of Sri Lankan fish stocks. Sensitivity tests for the major factors of the budget will be done.

2 METHODOLOGY AND DATA

The CFC prepares an annual budget. Every manager should send a budget proposal for the coming year, to the finance manager at the middle of the existing year. He/she then prepares the final annual budget considering the proposals. The fish catches fluctuate monthly and depend on the season. In such conditions an annual budget does not help the managers and at the end they are not concerned with the budget.

To counter these problems, in this project a budget on a monthly basis will be used. The seasonal distribution patterns of fish varieties and the local prices will be considered. Such a budget will help the managers to meet the targets and to have an idea about what they can achieve.

Cost of raw material will be calculated in addition to sales value of the fish, loss of weight and the utility rates, salaries and the packing material cost on a monthly basis.

The income on a monthly basis is considered and the expenses and finally the net profit are calculated. The sales analysis and planning model will be used depending on the availability of information. Real data will be used and where limited data are available the best estimates are used for the analysis.

2.1 Budget plan analysing and planning model

In this study the attached model with the following features will be used to analyse the monthly progress. To plan the monthly budget I will consider both best estimated data and real data with the seasonal behaviour of the fish catch.

The best estimated data are assumptions calculated depending on 2005 CFC real figures and 2006 real figures from the CFC Galle division. I have also used my 10 years of work experience in CFC as a tool of advantage. Figures on prices and quantities from 2005 are used as a reference when setting targets and estimating prices for 2007 (Appendix 1). In 2005, CFC purchased about 3500 mt out of total landings in Sri Lanka approximately 2800 mt (Appendix 2, Table 1). In preparing the budget for 2007, a target of 5080 mt has been set. The purchases have been divided according to species with reference to the comparison of the catches in recent years (Appendix 2, Table 2) and landing places (Appendix 2, Table 3).

Income – The main income of CFC is from fish trading. It is the total sales earnings of fish.

Other income - Besides the main income the other earnings of the CFC are from ice trading, cold room rentals, interest from fixed deposits, returns for treasury bills, vehicle hiring, renting of fixed assets etc.

Tax – The CFC is due to pay only a business turnover tax of 1% for the total turnover. CFC has to pay it, whether it is profitable or not.

Sales cost – The expenses related to the selling the raw material which include the shrinkage and the utility.

Cost of raw material – The total sum paid for purchasing of raw material and the expenses for ice and transportation.

Salary – These are the monthly salaries paid to the staff. More than 95% of the CFC staff is made up of permanent employees. There are very few casual workers. They will be paid according to the attendance on a monthly basis.

Sales commission – The sales assistants and the other staff who are engaged in fish sales are eligible to get a 2% sales commission from the monthly turn over of their sales. The packing material expenses will be also deducted from the sales commission here as explained before.

Gross profit (A) – From the total income (income + other income) the cost of raw material, salaries and sales commission is deducted.

$$\text{Gross profit (A)} = \text{Total income} - (\text{cost of raw mat.} + \text{salaries} + \text{sales commis.})$$

Vehicle – The expenses on the fleet of vehicles.

Maintenance – These are expenses to maintain vehicles, buildings, machinery, cold rooms and the infrastructure of the service.

Insurance – Expenditure to insure the vehicles, cold rooms, buildings etc.

Energy – The main source of energy is electricity. The payment for the consumption of electricity, oil and gas.

Other expenses – For example stationary, staff welfare and entertainment, telephone bills, postage, legal expenses, audit fees, sales promotion and advertising, transport, training etc.

Gross profit (B) – After deduction of fixed costs from Gross profit (A).

$$\text{Fixed costs} = \text{vehicle} + \text{maintenance} + \text{insurance} + \text{other expenses}$$

Administration – These are fixed expenses, the salaries of the management.

Gross profit (C) – It comes after deduction of administration charges from the gross profit (B)

Depreciation – Deductions for the value of the items that depreciate with time.

Finance – Includes interest rates, bank commission, fees, and profit or loss on currency.

Interest rates – Charges on bank loans and overdraft facilities.

Net profit/loss – Appears after deductions of all expenses from the total income. If it a positive sum, there is a profit, but negative if the corporation is running at a loss.

2.2 Sensitivity analysis

All data used in the budget planning and the analysing model will be studied carefully. Inputs into the model will be subjected to sensitivity testing. The estimated values for the three important inputs will be increased and decreased by 5%, 10% and 15%. The most important figures in the analysing model identified as sales prices, cost of raw material, salaries and quantity of purchases. The changes of these inputs and the influence on the profitability will be studied.

2.3 How the CFC calculates the selling price of fish

At the sales outlets the fish-cutters will process the large fish such as tuna, skipjack, marlin, shark etc. The selling price after processing will be calculated depending on the utility rate of the fish. The CFC calculates the selling price of processed fish according to the following formula: $X = (A+B) C/100$ (X= sales price, A= purchase price, B= mark-up, C= 100+ wastage rate). The utility value rates for some fish varieties are as below (Table 2).

Table 2: Utility value rates used for calculating selling price.

Fish type	Utility rate %	Wastage rate %
Un- gutted tuna	65	35
Gutted tuna	82	18
Un- gutted skipjack	60	40
Gutted marlin	95	5
Un- gutted seer fish	75	25
Un- gutted paraw	60	40
Gutted shark	95	5
Mullet	60-50	40- 5

The sales assistants and the other staff engaged in fish sales are entitled to share a 2% sales commission of the total turnover of the sales outlet. The packing material expenses will be deducted from the 2% commission of the sales outlet. The fish wastes (heads) are normally thrown away, but sometimes those are sold at a cheap rate.

3 ANALYSES

The budget estimates for the year 2007 are done taking into account the expecting seasonal fluctuations. The East Coast season is from February to August and the West Coast season is from October to June. The tables (Tables 6-11) show the purchase quantities, total purchases, purchase prices, sales prices, cost of raw material and the sales value of fish on a monthly basis 2007.

Table 3: Monthly purchases of fish at the East Coast according to species, in tonnes.

	January	February	March	April	May	June	July	August	September	October	November	December	Total	%
Tuna	15	15	20	20	25	30	25	20	15	12	10	10	217	15.9%
Skipjack	12	30	35	30	35	40	40	30	20	10	7	8	297	21.7%
Marlin	10	18	25	18	25	27	30	15	5	5	3	2	183	13.4%
Bullet Tuna	5	10	15	8	20	22	25	10	7	2	1		125	9.2%
Seer fish	3	5	8	2	5	10	10	7	2	2	2	2	58	4.2%
Sadinella sp.	5	10	15	8	10	15	18	14	7	5	5	5	117	8.6%
Squid	1	1	3	2	4	4	3	2					20	1.5%
Paraw	7	8	12	10	15	15	15	10	7	5	4	4	112	8.2%
Prawns		1	1	1	2	2	1	1	1				10	0.7%
Mackerel sp.	5	10	15	16	16	12	10	5	3	3	2	2	99	7.2%
Shark	1	2	2	1	2	1	1	1	1	1			13	1.0%
Crabs			1	1	1	1	1	1	1	1	1		9	0.7%
Others	8	8	9	10	12	12	12	8	7	7	6	7	106	7.8%
Total	72	118	161	127	172	191	191	124	76	53	41	40	1366	100.0%

Table 4: Monthly purchases of fish at the West Coast according to species, in tonnes.

	January	February	March	April	May	June	July	August	September	October	November	December	Total	%
Tuna	150	160	200	150	160	170	190	150	170	180	195	190	2065	55.5%
Skipjack	25	20	25	15	25	20	20	25	35	40	40	35	325	8.7%
Marlin	25	17	25	18	15	13	12	12	20	25	35	25	242	6.5%
Bullet Tuna	20	15	15	5	10	12	10	5	8	10	25	15	150	4.0%
Seer fish	10	8	8	2	7	5	3	2	2	5	10	5	67	1.8%
Sardinella sp.	15	15	12	8	9	10	7	5	10	12	14	15	132	3.5%
Squid	5	6	3	2	4	3	5	4	5	6	3	2	48	1.3%
Paraw	15	15	15	7	12	12	10	7	8	12	16	12	141	3.8%
Prawns	8	8	10	5	8	7	6	5	7	8	10	5	87	2.3%
Mackerel	20	15	12	10	12	15	18	15	18	20	18	16	189	5.1%
Shark	10	12	15	8	8	15	14	10	10	12	12	8	134	3.6%
Crabs	1	1	1	1	1	1	1	1	1	1	1	1	12	0.3%
Others	10	12	12	12	12	11	10	8	8	10	12	12	129	3.5%

Table 5: Total monthly purchases of fish at East and West Coasts in tonnes.

	January	February	March	April	May	June	July	August	September	October	November	December	Total	%
Tuna	165	175	220	170	185	200	215	170	185	192	205	200	2282	44.9%
Skipjack	37	50	60	45	60	60	60	55	55	50	47	43	622	12.2%
Marlin	35	35	50	36	40	40	42	27	25	30	38	27	425	8.4%
Bullet Tuna	25	25	30	13	30	34	35	15	15	12	26	15	275	5.4%
Seer fish	13	13	16	4	12	15	13	9	4	7	12	7	125	2.5%
Sardinella sp.	20	25	27	16	19	25	25	19	17	17	19	20	249	4.9%
Squid	6	7	6	4	8	7	8	6	5	6	3	2	68	1.3%
Paraw	22	23	27	17	27	27	25	17	15	17	20	16	253	5.0%
Prawns	8	9	11	6	10	2	7	6	8	8	10	5	90	1.8%
Mackerel	25	25	27	26	28	27	28	20	21	23	20	18	288	5.7%
Shark	11	14	17	9	10	16	15	11	11	13	12	8	147	2.9%
Crabs	1	1	2	2	2	2	2	2	2	2	2	1	21	0.4%
Others	18	20	21	22	24	23	22	16	15	17	18	19	235	4.6%
Total	386	422	514	370	455	478	497	373	378	394	432	381	5080	100.0%

Table 6: Monthly purchase prices of fish at the East Coast in USD/kg.

	January	February	March	April	May	June	July	August	September	October	November	December	Average
Tuna	1.3	1.25	1.35	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.4
Skipjack	1	0.9	0.9	1	0.9	0.85	0.8	0.9	0.95	1	1.1	1.2	1.0
Marlin	2.1	2.1	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.4	2.2
Bullet Tuna	0.8	0.8	0.8	1	0.8	0.7	0.9	0.9	0.9	1	1	1.2	0.9
Seer fish	1.9	1.8	2	2.5	1.9	1.8	1.8	2	2.2	2.2	2.3	2.5	2.1
Sardinella sp.	0.8	0.8	0.8	1	0.8	0.7	0.7	0.7	0.8	0.8	0.8	1	0.8
Squid	1.6	1.6	1.45	1.8	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.6
Paraw	1.6	1.6	1.5	1.8	1.6	1.5	1.4	1.5	1.5	1.6	1.7	1.8	1.6
Prawns		2.2	2.2	2.5	2.3	2.1	2.1	2.2	2.2	2.3	2.3	2.5	2.3
Mackerel	1.1	1.1	1.1	1.3	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.3
Shark	1.4	1.4	1.3	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4
Crabs			1.7	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.8
Others	1.1	1.1	1.1	1.3	1.2	1.2	1.1	1.2	1.2	1.3	1.3	1.5	1.2

Table 7: Monthly purchase prices of fish at the West Coast in USD/kg.

	January	February	March	April	May	June	July	August	September	October	November	December	Average
Tuna	1.25	1.3	1.3	1.5	1.4	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.3
Skipjack	1.1	1	1	1.2	1.1	1	0.9	0.85	0.8	0.8	0.8	0.8	0.9
Marlin	2.4	2.4	2.3	2.6	2.4	2.3	2.2	2.1	2.1	2.1	2	2	2.2
Bullet Tuna	1	1.1	0.9	1.2	1	1	1	1.1	1	0.95	0.9	1.1	1.0
Seer fish	2.2	2.2	2.3	2.6	2.1	2.2	2.4	2.5	2.5	2.3	2.3	2.6	2.4
Sardinella sp.	0.9	0.9	0.9	1.1	0.9	0.9	0.95	1.1	0.9	0.9	0.8	1	0.9
Squid	1.8	1.8	1.9	2.2	1.8	1.8	1.9	2	1.8	2	2	2	1.9
Paraw	1.7	1.7	1.7	2	1.8	1.7	1.7	1.9	1.8	1.7	1.7	1.9	1.8
Prawns	2.5	2.6	2.6	3	2.5	2.2	2.4	2.4	2.2	2.2	2.3	2.6	2.5
Mackerel	1.3	1.4	1.3	1.5	1.4	1.4	1.3	1.4	1.2	1.2	1.2	1.5	1.3
Shark	1.5	1.5	1.4	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.6	1.5
Crabs	1.7	1.7	1.8	2	1.8	1.7	1.6	1.6	1.8	1.8	1.9	2	1.8
Others	1.3	1.3	1.4	1.6	1.4	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5

Table 8: Estimated sales prices of fish in USD/kg.

	January	February	March	April	May	June	July	August	September	October	November	December	Average
Tuna	1.8	1.8	1.8	2	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Skipjack	1.5	1.4	1.4	1.6	1.5	1.35	1.2	1.2	1.1	1.1	1.2	1.3	1.3
Marlin	2.8	2.7	2.7	2.9	2.8	2.8	2.7	2.6	2.6	2.6	2.5	2.9	2.7
Bullet Tuna	1.3	1.3	1.2	1.5	1.3	1.2	1.3	1.4	1.4	1.3	1.3	1.5	1.3
Seer fish	2.6	2.5	2.6	3.1	2.5	2.5	2.8	2.8	3	3	3	3.2	2.8
Sardinella sp.	1.2	1.25	1.25	1.4	1.3	1.2	1.1	1.2	1.2	1.2	1.1	1.3	1.2
Squid	2.2	2.2	2.2	2.6	2.3	2.3	2.2	2.3	2.3	2.2	2.3	2.5	2.3
Paraw	2	2	2	2.3	2.2	2.2	2	2.3	2.3	2.2	2.2	2.5	2.2
Prawns	3	3	3	3.4	3	2.8	2.8	2.8	3	3	3	3.5	3.0
Mackerel	1.6	1.6	1.6	1.8	1.8	1.7	1.7	1.9	1.65	1.6	1.7	1.9	1.7
Shark	1.9	1.9	1.8	2	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9
Crabs	2.2	2.2	2.3	2.5	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.5	2.3
Others	1.7	1.7	1.7	1.9	1.7	1.8	1.8	1.9	1.9	1.8	1.8	1.9	1.8

Table 9: Cost of raw material purchased at the East Coast in USD.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Tuna	19500	18750	27000	30000	35000	42000	35000	28000	22500	18000	16000	17000	308750
Skipjack	12000	57000	31500	30000	31500	34000	32000	27000	19000	10000	7700	9600	301300
Marlin	21000	37800	55000	41400	57500	62100	66000	33000	11000	11500	6900	4800	408000
Bullet Tuna	4000	8000	12000	8000	16000	15400	22500	9000	6300	2000	1000		104200
Seer fish	5700	9000	16000	5000	9500	18000	18000	14000	4400	4400	4600	5000	113600
Sardinella sp.	4000	8000	12000	8000	8000	10500	12600	9800	5600	4000	4000	5000	91500
Squid	1600	1600	4350	3600	6400	6000	4500	3000					31050
Paraw	11200	12800	18000	15000	27000	22500	21000	15000	10500	8000	6800	7200	175000
Prawns		2200	2200	2500	4600	4200	2100	2200	2200				22200
Mackerel	5500	11000	16500	20800	19200	14400	13000	6500	4200	4200	3000	3200	121500
Shark	1400	2800	2600	1500	2800	1400	1400	1400	1400	1400			18100
Crabs			1700	1900	1800	1800	1800	1800	1800	1800	1800		16200
Others	8800	8800	9900	13000	14400	14400	13200	9600	8400	9100	7800	9100	126500
Total	94700	177750	208750	180700	233700	246700	243100	160300	97300	74400	59600	60900	1837900

Table 10: Cost of raw material purchased at the West Coast in USD.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Tuna	187500	208000	260000	225000	224000	221000	247000	210000	221000	234000	253500	247000	2738000
Skipjack	27500	20000	25000	18000	27500	20000	18000	21250	28000	32000	32000	28000	297250
Marlin	60000	40800	57500	46800	36000	29900	26400	25200	42000	52500	70000	50000	537100
Bullet Tuna	20000	16500	13500	6000	10000	12000	10000	5500	8000	9500	22500	16500	150000
Seer fish	22000	17600	18400	5200	14700	11000	7200	5000	5000	11500	23000	13000	153600
Sardinella sp.	13500	13500	10800	8800	8100	9000	6650	5500	9000	10800	11200	15000	121850
Squid	9000	10800	5700	4400	7200	5400	9500	8000	9000	12000	6000	4000	91000
Paraw	25500	25500	25500	14000	21600	20400	17000	13300	14400	20400	27200	22800	247600
Prawns	20000	20800	26000	15000	20000	15400	14400	12000	15400	17600	23000	13000	212600
Mackerel	26000	21000	15600	15000	16800	21000	23400	21000	21600	24000	21600	24000	251000
Shark	15000	18000	21000	12800	12000	22500	19600	14000	14000	16800	18000	12800	196500
Crabs	1700	1700	1800	2000	1800	1700	1600	1600	1800	1800	1900	2000	21400
Others	13000	15600	16800	19200	16800	16500	16000	12800	12800	15000	18000	18000	190500
Total	440700	429800	497600	392200	416500	405800	416750	355150	402000	457900	527900	466100	5208400

Table 11: Sales value of fish in USD.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Tuna	291060	308700	388080	333200	344470	352800	379260	299880	326340	338688	361620	352800	4076898
Skipjack	53835	67900	81480	69840	87300	78570	69840	64020	58685	53350	54708	54223	793751
Marlin	95060	91665	130950	101268	108640	108640	109998	68094	63050	75660	92150	75951	1121126
Bullet Tuna	31850	31850	35280	19110	38220	39984	44590	20580	20580	15288	33124	22050	352506
Seer fish	33293	32012	40976	12214	29550	36937	35854	24822	11820	20685	35460	22064	335687
Sardinella sp.	23640	30781	33243	22064	24329	29550	27087	22458	20094	20094	20586	25610	299536
Squid	12804	1493	12804	10088	17848	15617	17072	13386	11155	12804	6693	4850	136614
Paraw	43120	45080	52920	38318	58212	58212	49000	38318	33810	36652	43120	39200	535962
Prawns	23280	2619	32010	19788	29100	5432	19012	16296	23280	23280	29100	16975	240172
Mackerel	39400	39400	42552	46098	49664	45211	46886	37430	34130	36248	33490	33687	484196
Shark	20273	25802	29682	17460	18430	29488	26190	19206	19206	22698	20952	14744	264131
Crabs	2134	2134	4462	4850	4268	4268	4074	4268	4268	4268	4268	2425	45687
Others	19988	33320	34986	40964	39984	40572	38808	29792	27930	29988	31752	35378	403462
Total	689737	712756	919425	735262	850015	845281	867671	658550	654348	689703	767023	699957	9089728

3.1 Weight loss

The CFC has approved a standard to estimate wastage and the sales outlets are charged on this basis. Even if customers are issued with receipts of sales, they are not used to calculate the income of the CFC. When wastage is unusually high, sales assistants of the outlets may lose, when it is low, sales assistants will benefit. This system should encourage sales assistants of the outlet to increase utility.

Table 12: Weight loss in fish handling and the approximate mark-up.

Variety of fish	Weight loss in handling %	Processing utility %	Mark-up USD/KG
G/ Tuna	2	82	0.4 - 0.5
U/G Tuna	2	65	0.4 - 0.5
Skipjack	3	60	0.4
G/Marlin	3	95	0.6
Bullet tuna	2		0.4
Seer fish	1.5	75	0.6
Sardinella	1.5		0.2 - 0.3
Squid	3		0.6
Paraw	2	60-50	0.6
Prawns	3		0.6
Mackerel	1.5		0.4
G/ Shark	3	95	0.4
Crabs	3		0.6
Others	2		0.4

3.2 Tuna prices

Tuna purchase prices are showing low values. CFC is not engaged in fish exporting. So export quality tuna fish is not bought. The yellow fin tuna and big eye tuna are caught all around the island and are in demand for export. The companies that export tuna are competing for the best quality fish and pay high prices. So the local market trading depends only on un-exportable tuna. At the landing sites and harbours the companies that export tuna will check the quality of the fish manually. Un-exportable tuna is directed onto the local market and graded according to the quality by local traders. The un-exportable tuna will be less than half of the exportable purchase prices. CFC is receiving un-exportable tuna quantities from the foreign fishing companies who operate from Sri Lanka under the Board of Investment agreement. They should hand over the un-exportable tuna and other by-catch to the CFC as it is the government representative in fish trading. They have no right to trade in the local market.

Table 13: Expected sales quantity after the weight loss in tonnes.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Tuna	161.7	171.5	215.6	166.6	181.3	196	210.7	166.6	181.3	188.16	200.9	196	2236.36
Skipjack	35.89	48.5	58.2	43.65	58.2	58.2	58.2	53.35	53.35	48.5	45.59	41.71	603.34
Marlin	33.95	33.95	48.5	34.92	38.8	38.8	40.74	26.19	24.25	29.1	36.86	26.19	412.25
Bullet Tuna	24.5	24.5	29.4	12.74	29.4	33.32	34.3	14.7	14.7	11.76	25.48	14.7	269.5
Seer fish	12.805	12.805	15.76	3.94	11.82	14.775	12.805	8.865	3.94	6.895	11.82	6.895	123.125
Sardinella sp.	19.7	24.625	26.595	15.76	18.715	24.625	24.625	18.715	16.745	16.745	18.715	19.7	245.265
Squid	5.82	6.79	5.82	3.88	7.76	6.79	7.76	5.82	4.85	5.82	2.91	1.94	65.96
Paraw	21.56	22.54	26.46	16.66	26.46	26.46	24.5	16.66	14.7	16.66	19.6	15.68	247.94
Prawns	7.76	8.73	10.67	5.82	9.7	1.94	6.79	5.82	7.76	7.76	9.7	4.85	87.3
Mackerel	24.625	24.625	26.595	25.61	27.58	26.595	27.58	19.7	20.685	22.655	19.7	17.73	283.68
Shark	10.67	13.58	16.49	8.73	9.7	15.52	14.55	10.67	10.67	12.61	11.64	7.76	142.59
Crabs	0.97	0.97	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	1.94	0.97	20.37
Others	17.64	19.6	20.58	21.56	23.52	22.54	21.56	15.68	14.7	16.66	17.64	18.62	230.3
Total	377.59	412.715	502.61	361.81	444.895	467.505	486.05	364.71	369.59	385.265	422.495	372.745	4967.98

3.3 CFC staff and the salaries

There are 725 employees in CFC and most of them are permanent employees. There are very few casual workers. Who are also paid at the end of the month depending on attendance. So each and every month CFC has to pay the salaries for all employees and there will be no big difference in monthly salary payments.

According to the government labour rules and regulations there is a contribution to the Employees Provident Fund (EPF) and to the Employees Trust Fund (ETF). A sum of 28% of the total earnings of each will be allocated and deposited into these funds. Both parties will contribute to this as below.

Each employee should contribute 10% and the employer should contribute 15% to the EPF. For the ETF the employer only will contribute 3% on behalf of the employee.

These funds will provide the employees medical, insurances, financial awards, scholarships and housing loans (Government of Sri Lanka 2006). The employee can claim the total amount of the deposit at the end of his service.

3.4 Planning of the budget

The main outcome of this project is planning a budget for the CFC. (Table 14) The two fishing seasons of the island are considered as East Coast season (Table 3) and West Coast season (Table 4). The different fish purchase prices for these two seasons are taken into the calculations (Tables 6 and 7). These fish will be sold at a flat rate in different parts of the island (Table 8). Using the above calculations the raw material cost (Tables 9 and 10) is calculated. The sales value of this fish is calculated and it will be the main income of CFC (Table 11).

Taking all these important figures into consideration the budget will be formed. In the proposed budget the expected target is to purchase 5080 mt of fish at the cost of USD 7,046,300. The expected sales value is USD 9,089,728. These two figures show a contribution of 69.4% and 89.5% respectively, to the total income of the budget. The salaries are 8% from the total income. These are the key influential characters of the budget. In such an operation the expected net profit is 6.2% from the total income. At the end it shows a positive result.

Table 14: Planning budget for 2007.

PLANNING BUDGET FOR CFC IN USD FOR 2007														
	January	February	March	April	May	June	July	August	September	October	November	December	Total	%
Income	689737	712756	919425	735262	850015	845281	867671	658550	654348	689703	767023	699957	9089728	89,5%
Other income	80000	82000	80000	100000	95000	90000	86000	88000	87000	90000	92000	100000	1070000	10,5%
Total income	769737	794756	999425	835262	945015	935281	953671	746550	741348	779703	859023	799957	10159728	100,0%
Turnover Tax (BTT)	7697	7948	9994	8353	9450	9353	9537	7466	7413	7797	8590	8000	101597	1,0%
Sales Cost	15103	16508	20104	14472	17795	18700	19442	14588	14783	15410	16899	14909	198713	2,0%
Cost of Rawmaterial	535400	607550	706350	572900	650200	652500	659850	515450	499300	532300	587500	527000	7046300	69,4%
Salary	68000	68000	68000	68000	68000	68000	68000	68000	68000	68000	68000	68000	816000	8,0%
Sales Commission	13794	14555	18388	14705	17000	16905	17353	13171	13086	13794	15340	13999	182090	1,8%
Srinkage	11816	12999	15946	11466	14147	14693	15330	11606	11774	12229	13307	11557	156870	1,5%
GROSS PROFIT(A)	117927	67196	160643	145366	168423	155130	164159	116270	126992	130173	149387	156492	1658158	16,3%
Vehicle	3800	3900	4000	4000	4000	3900	3900	3700	3700	3900	4000	4000	46800	0,5%
Maintenance	4500	4800	5200	4800	5200	5000	5100	4500	4500	5100	5200	4800	58700	0,6%
Insuarance	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	12840	0,1%
Energy	37600	38000	39000	38000	38500	38000	39000	36000	36000	36500	38500	37500	452600	4,5%
Other expences	18000	20000	91000	20000	21000	22500	22000	17400	17500	18000	18500	18000	303900	3,0%
GROSS PROFIT(B)	52957	-574	20373	77496	98653	84660	93089	53600	64222	65603	82117	91122	783318	7,7%
Administration	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	20400	0,2%
GROSS PROFIT(C)	51257	-2274	18673	75796	96953	82960	91389	51900	62522	63903	80417	89422	762918	7,5%
Depreciation	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	96000	0,9%
Finance cost	3290	3290	3290	3290	3290	3290	3290	3290	3290	3290	3290	3290	39480	0,4%
NET PROFIT/(LOSS)	39967	-13564	7383	64506	85663	71670	80099	40610	51232	52613	69127	78132	627438	6,2%

3.5 Sensitivity test results

The budgeted amount and figures (total sales price, total cost of raw material and salaries) will be considered as the control base (0%). Depending on this point I will consider fluctuations of these values in three positive and negative directions. Forecasting increases by 5%, 10%, 15% and decreases by 5%, 10% or 15%. In each of these situations how it will influence on the profitability?

It will give a good idea how to survive with out loosing money or how to minimise the losses. Even we can have an idea about the acceptable range of fluctuations where we can move and be flexible to operate without running into losses (Table 15).

Table 15: Sensitivity analysing with the net profits.

% of change	Price (Sales)	Net profit	Price (Raw Material)	Net profit	Salaries	Net profit
15%	10.453.187	1.977.262	8.103.245	-429.507	938.400	505.043
10%	9.998.701	1.527.321	7.750.930	-77.192	897.600	545.843
5%	9.544.214	1.077.379	7.398.615	275.123	856.800	586.643
0%	9.089.728	627.438	7.046.300	627.438	816.000	627.443
-5%	8.635.242	177.496	6.693.985	979.753	775.200	668.243
-10%	8.180.755	-272.445	6.341.670	1.332.068	734.400	709.043
-15%	7.726.269	-722.387	5.989.355	1.684.383	693.600	749.843

The cost price of the raw material if decreased by 15% from the profit will be up to USD 1,684,383. If the purchase prices of the raw material increased from 15% above the budgeted the final result will be a loss of USD 429,507. The raw material cost can alternate up to 6-8% over the budgeted value with profits. But if it will increase by 10% the loss will be USD 77,192. The raw material cost is playing the key role in the budget, so the CFC has to be very sensitive about the purchasing prices of fish.

The sales price of the fish is also very important because it brings the main income to the CFC. If we can increase the sales price by 15% the profits will increase up to USD 1,977,262. By increasing sales prices all the time we can gain the profits. Sometimes the market will insist on CFC reducing the prices. According to analyses the sales prices can be reduced by 5-7% with out running into losses.

But if we have to reduce the sales price by 10% CFC will lose USD 272,445. Sometimes the market will not favour the CFC. So if CFC reduces the price by 15%, it will lose USD 722,387 per year (Figure 3).

CFC has a permanent staff and their salaries have been increasing. But the salaries are not seriously affecting profits. Salaries may increase by more than 15%, without losses. The analysis shows clearly that the salary is not a critical factor to the profits.

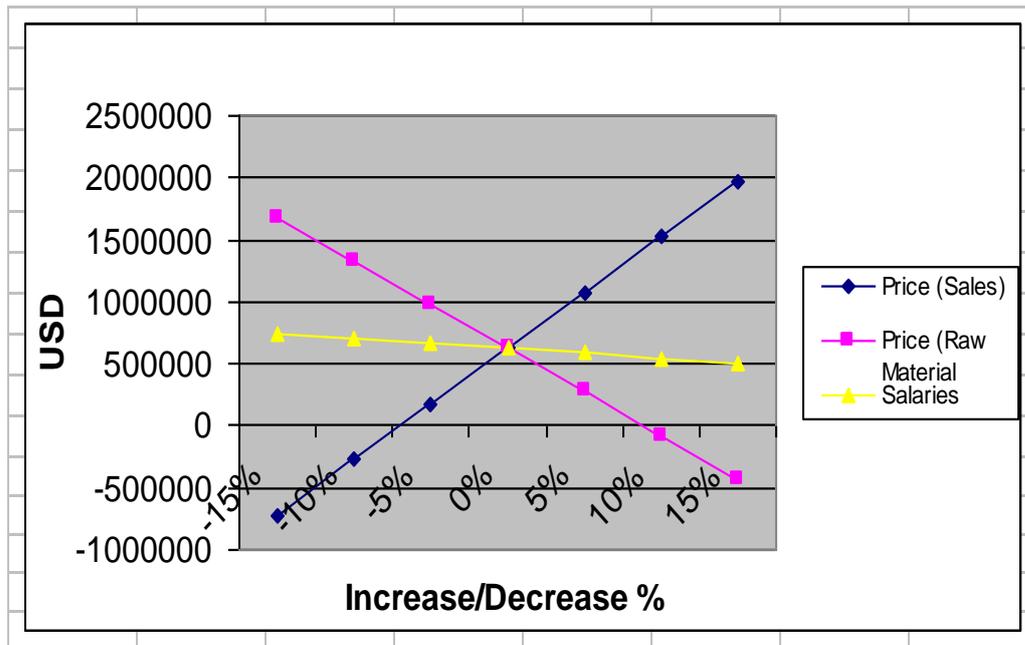


Figure 3: Effects of changes in the prices of sales, raw material and salaries on the profits of CFC.

One of the most important factors is the quantity purchased. It is directly related to the quantity of the sales. The quantity may vary for various reasons.

The purchase quantity may be low because of the fish catch is low. Then automatically the purchasing prices and sales prices will go up. It is the normal behaviour of the market. Proportionally the expenses also come down.

In some occasions the purchase quantity may increase because of the unexpected fish catches. Then the situation will be reversed. The prices both purchasing and sales will go down. The expenses will also increase up to some amount. Then the profitability will mainly depend on the mark-up per kg.

Analysing these main key factors of this budget we can have a clear idea about when the managers should be careful and pay attention in management.

The purchase prices and sales prices play the most important role in the profitability of the CFC.

4 DISCUSSION

4.1 How can the CFC react on the budget?

Currently, the company can only analyse the impact of operations at the end of the year. By then it is too late to react to improve the profitability or to achieve the goals. We should understand that budgets are short lived. So we have to react on time without any delay. The increase in competition is putting pressure on businesses. The companies can no longer rely on their markets and competitors remaining unchanged for many years. The Internet and mobile phones have disrupted some markets and created huge opportunities in others. These rapid changes can make the budget out of date extremely quickly, especially when it is only updated every 12 months (Bourne 2005).

If the managers cannot follow the budget then they have to be curious and look into the matters, why and where the problems in achieving it are. If you lose your monthly target you cannot gain it again, but you can adjust your operation. You have to act in time without delay and find solutions quickly. You should consider facts and study why you cannot reach the targets. Where is the problem? Is it with the cost of raw material, in utility rates or in selling prices, etc? By considering the progress weekly or by weekly you can try to find solutions to correct the budget and drive it into the correct path. In this manner managers will be able to react to the fluctuations and keep in touch with the budget throughout the year.

4.2 Is the CFC ready for periodic budgeting?

“Traditionally, budgeting is considered to be one of the most important management tools to steer the organisation, evaluate its performances and motivate its people. However, criticism of the budgeting process has increased considerably in the past decade. So new budgeting methods are trying to modernise the budgeting processes” (Waal 2005). Periodic budgeting means that the managers have to be in touch with the budget and to take quick action when a weakness becomes evident and to make timely decisions about the market.

It means that the managers should not have to depend a lot on a hierarchical organisational structure. They should have enough authority to determine the tactical navigation.

The structure of CFC gives a vast opportunity for managers to be flexible.

1. Self-governance framework. The managers have the authority to run their units as they see fit.
2. Empowered managers. Managers of self-managing units act within the values and strategic boundaries as set by senior management.
3. The units are focused on fishermen, markets and the customer.
4. Relative targets and relative rewards.

The solid basic requirements are within the legal frame of the CFC. So the managers can follow a monthly budget without any hesitation and the top management also does not need to make new special measures to implement this system. The finance division has to give necessary instructions and discuss the achievements at monthly progress review meetings with the top management.

5 CONCLUSIONS

Managers tend to think that salaries are to blame for losses. The staff of the CFC are 725 and they are paid a fixed monthly salary. Some divisions are over staffed. But this study shows that the salaries do not have a serious influence on profits. Anyways, CFC has to use efficiently the employees in the process of operations. Each and every employee of the CFC should effectively contribute in fish purchases and sales. The dedication of the staff will only help to achieve these targets. To use the staff more effectively quantities of fish purchased and total sales are to be increased. In the budget for 2007 the target was set at 5080 mt, as opposed to 3500 mt in 2006.

The most important factors towards the profitability of the CFC are purchasing prices and sales prices. It is directly related with the success of the CFC. The sales value of the fish that handles the CFC shows a specific behaviour in the value share distribution. Tuna is the most important raw material and sales item of the CFC. The sales value of tuna (yellow fin and big eye) is 44.8% of the total sales value. The second important fish species is marlin. It contributes 12.3% of the total sales value. Skipjack is in the third place making 8.7% of the total sales value. These three made up 65.8% of the sales value. These figures indicate that the CFC has to be very sensitive in purchasing and sales of these fish species, because this combination is the key factor to the success of the operation.

Now there is no effective and efficient monitoring system over this by the senior expert officers of the CFC. So it will be reasonable to suggest the establishment of an authorised monitoring body to oversee the purchasing and sales process. They should especially assist and guide the managers with limited experience. Because they are poor in forecasting and judging the fish catch patterns and the seasonal behaviour of the fish. These fluctuations have a serious effect on the prices.

The CFC is not directly engaged in fish catching, so the raw material cost is almost 70% of the total income. In these conditions purchasing price is the key factor to be monitored efficiently throughout the whole process. Sales prices should be adjusted depending on the market at the right moment and it is necessary to identify the effective price range to the costumers.

The quantity of the purchases should depend on the purchasing prices. If the advantage of the price favours the CFC only then should they go for large quantities. When the raw material prices are high the CFC should purchase only enough to meet the daily target.

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APPENDIX

Appendix 1: Raw material purchase prices- 2005

	Raw material purchase prices 2005 (in USD/Kg)												Average
	January	February	March	April	May	June	July	August	September	October	November	December	
1. Tuna	0,97	1,1	0,93	1,33	1,19	1,27	1,32	1,3	1,23	1,21	1,32	1,01	1,2
2. Skip Jack	0,8	0,9	0,86	1,4	1,36	1,2	1,3	1,28	1,3	1,25	1,4	1,16	1,2
3. Marlin	1,4	1,4	1,4	2	2,2	2,2	2,3	2,4	2,2	2,2	2,4	2,3	2,0
4. Bullet Tuna	0,8	0,8	0,8	1,4	1,2	1,2	1,3	1,5	1,4	1,4	1,5	1,56	1,2
5. Seer Fish		1,8	1,9	3,5	3,5	3,2	3,5	4	3,8	3,6		3,4	3,2
6. Sardinella sp.	1,29	0,9	0,85	1,2	1,3	1,2	1,3	1,4	1,3	1,25	1,3	1,4	1,2
7. Squid			1,4	3	2,9	2,6	2,8	3	3	2,41	2,5	2,6	2,6
8. Paraw		1,6	1,6	2,5	2,6	2,3	2,5	2,6	2,4	2	2,4	2,4	2,3
9. Prawns	2,8	2,8	2,9	4	4	3,5	3,5	3,5	3,2	2,8	3	3,1	3,3
10. Mullet		1,4	1,4	2	1,8	1,7	1,8	1,7	1,6	1,46	1,8	1,8	1,7
11. Mackerel		1	0,9	1,4	1,5	1,4	1,6	1,5	1,5	1,4	1,5	1,5	1,4
12. Shark					1,6	1,7	1,8	1,8	1,6	1,6	1,6	1,6	1,7
13. Crabs		1,6		2,5	2,2	2,2	2,4	2,4	2	1,8	2	2	2,1
14. Fish Fishlet	2	2	2	2	2	2	2	2	2	2	2	2	2,0
15. Others	0,9	0,92	0,9	1,5	1,45	1,6	1,65	1,7	1,7	1,8	2	1,9	1,5

	AMOUNT OF RAWMATERIAL PURCHASED (YEAR 2005) (TONNES)												TOTAL	%
	January	February	March	April	May	June	July	August	September	October	November	December		
1. Tuna	70	130	140	132	150	153	156	170	173	162	165	180	1781	50,7%
2. Skip Jack	5	40	60	43	62	60	56	58	56	42	12	40	534	15,2%
3. Marlin	5	12	40	33	40	35	23,7	20	15	15	10	40	288,7	8,2%
4. Bullet Tuna	5	9	10	7	14	14,2	10	10	10	7	1	16	113,2	3,2%
Seer fish		3	2	2	2	3	2	1	1	1		5	22	0,6%
6. Sardinella sp.	7	14	13,5	11	12	16	12	14	14	14	12	15	154,5	4,4%
7. Squid			2	1,8	1,5	3	1	2	1	2	1	2	17,3	0,5%
8. Paraw		7	7	6,5	8,1	10	6	10	10	6	6	12	88,6	2,5%
9.Prawns	5	7	2	3	2,5	2	2	3	2	2	1	3	34,5	1,0%
10. Mullet		6,5	6	5	5,7	8	5	15	15	10	7	10	93,2	2,7%
11. Mackerel		12	19,5	14	14	16	10	18	18	10	8	12	151,5	4,3%
12. Shark					2	4	2	2	4	5	2	8	29	0,8%
13. Crabs		1		2	2	2	1	1,5	1	1	1	2	14,5	0,4%
14. Fish Fillet	2	1	1	1	1	1,5	1	1	1	1	1	1	13,5	0,4%
15. Others	0,56	21	13,95	12	18	20	20	15,33	15,2	13,26	9,93	16,33	175,56	5,0%
TOTAL	99,56	263,5	316,95	273,3	334,8	347,7	307,7	340,83	336,2	291,26	236,93	362,33	3511,06	100,0%

	SALES PRICES -2005												Average
	January	February	March	April	May	June	July	August	September	October	November	December	
1. Tuna	1,28	1,33	1,3	1,5	1,5	1,55	1,6	1,5	1,5	1,5	1,45	1,4	1,5
2. Skip Jack	1,16	1,15	1,3	1,45	1,45	1,45	1,45	1,45	1,45	1,45	1,45	1,45	1,4
3. Marlin	1,8	1,63	1,85	2,3	2,8	2,8	2,8	2,8	2,7	2,8	2,6	2,8	2,5
4. Bullet Tuna	1,1	1,03	1,6	1,6	1,6	1,5	1,6	1,72	1,6	1,7	1,6	2	1,6
5. Seer Fish		2,1	2,4	3,8	4	3,8	4	4,3	4,2	4		4,2	3,7
6. Sardinella sp.	1,6	1,1	1,2	1,4	1,4	1,3	1,6	1,6	1,5	1,6	1,43	1,7	1,5
7. Squid			2	3,3	3,4	3,2	3,2	3,3	3,25	2,75	2,63	3,2	3,0
8. Paraw		1,85	2,2	2,7	2,9	2,8	2,8	2,9	2,8	2,6	2,53	2,8	2,6
9. Prawns	3,3	3,2	3,5	4,5	4,6	4,2	4	3,9	3,6	3,2	3,13	3,6	3,7
10. Mullet		1,6	1,8	2,2	2,2	2,1	2,1	2	1,8	1,8	1,93	2,2	2,0
11. Mackerel		1,2	1,6	1,8	1,9	1,8	1,9	1,72	1,8	1,75	1,63	1,9	1,7
12. Shark					2,1	2,2	2,1	2,1	1,9	1,9	1,73	2	2,0
13. Crabs		1,9		2	2,5	2,5	2,5	2,5	2,2	2,2	2,1	2,2	2,3
14. Fish Fishlet	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,2	2,2	2,5
15. Others	1,3	1,15	1,35	1,7	1,8	1,9	1,9	1,92	1,9	2	2,1	2,2	1,8

	Cost of Raw material -2005(USD)												
	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
1. Tuna	67900	143000	130200	175560	178500	194310	205920	221000	212790	196020	219450	181800	2126450
2. Skip Jack	4000	36000	51600	60200	84320	72000	72800	74240	72800	52500	16800	49880	647140
3. Marlin	7000	16800	56000	66000	88000	77000	54510	48000	34500	33000	24000	92000	596810
4. Bullet Tuna	4000	7200	8000	9800	16800	17040	13000	15000	14000	9800	1500	24960	141100
Seer fish		5400	3800	7000	7000	9600	7000	4000	3800	3600		17000	68200
6. Sardinella sp.	9030	12600	11475	13200	15600	19200	15600	19600	18200	17500	15600	19600	187205
7. Squid			2800	5400	4350	7800	2800	6000	3000	4820	2500	5200	44670
8. Paraw		11200	11200	16250	20800	23000	15000	26000	24000	12000	14400	24000	197850
9.Prawns	14000	19600	5800	12000	10000	7000	7000	10500	6400	5600	3000	9300	110200
10. Mullet		9100	8400	10000	10260	13600	9000	25500	24000	14600	12600	18000	155060
11. Mackerel		12000	18000	19600	21000	22400	16000	27000	27000	14000	12000	18000	207000
12. Shark					3200	6800	3600	3600	6400	8000	3200	12800	47600
13. Crabs		1600		5000	4400	4400	2400	3600	2000	1800	2000	4000	31200
14. Fish Fillet	4000	2000	2000	2000	2000	3000	2000	2000	2000	2000	2000	2000	27000
15. Others	504	19320	12555	18000	26100	32000	33000	26010	27360	23868	18660	31027	268404
TOTAL	110450	295780	321830	419080	492640	508820	459000	512470	479100	399490	347200	509740	4855600

Appendix 2: Fish catch*Table 1: Fish Catch (from 1996 to 2004 in Tonnes)*

Year	Total	Coastal Fisheries	Deep Sea Fisheries	Inland Waters Fisheries
1996	228,550	149,300	57,000	22,250
1997	242,000	152,750	62,000	27,250
1998	269,850	166,700	73,250	29,900
1999	279,900	171,950	76,500	31,450
2000	300,380	179,280	84,400	36,700
2001	284,760	167,530	87,360	29,870
2002	302,890	176,250	98,510	28,130
2003	284,960	163,850	90,830	30,280
2004	286,370	154,470	98,720	33,180

(MAFR 2006a)

Table 2: Marine fish catch by main species groups (tonnes)

Species group	1995	2000	2002	2003	2004
Spanish mackerel	2,900	3,130	3,920	6,290	5,260
Trevally	8,910	10,450	10,760	14,940	13,580
Skipjack Tuna	33,550	49,110	54,640	42,810	43,830
Yellowfin Tuna	26,050	29,320	38,430	27,620	32,870
Other Tuna species	17,640	27,890	27,540	35,210	36,830
Shark and Skate	22,120	28,790	25,340	26,590	21,320
Rockfish	10,450	14,910	16,320	19,980	17,540
Shore seine species	60,610	76,250	72,910	50,310	54,410
Prawns	8,000	7,540	9,820	10,190	9,730
Lobster	950	1,150	1,860	2,530	1,590
Other	26,330	15,140	13,220	18,210	16,230
Total	217,500	263,680	274,760	254,680	253,190

(FAO 2006)

After the effect of Indian Ocean Tsunami in December 2004, according to my experience the catch figures are to be studied. The damage coursed to the corals and to the seabed has made big differences in the marine life. Because corals provide safe shelters and safe breeding grounds to the most of fish varieties. There are possibilities to change the migratory patterns and habitats of the fish.

verity

Table 3: Marine Fish Catch by Fisheries districts (before Tsunami – in Tones)

Fisheries District	1995	2000	2002	2003	2004
Puttalam	27,020	29,730	23,560	16,640	16,520
Chilaw	24,550	25,650	19,900	13,570	14,220
Colombo	2,550	3,130	2,980	1,990	1,640
Negombo	30,570	34,540	26,490	20,940	22,780
Kaluthara	28,910	33,140	29,470	21,700	20,690
Galle	21,430	27,830	25,060	20,870	17,530
Matara	29,930	35,480	34,000	28,430	27,990
Tangalle	23,260	33,470	26,860	21,700	21,960
Kalmunai	7,290	9,120	17,750	21,380	19,790
Batticaloa	8,360	9,860	15,140	22,240	16,160
Trincomalee	9,130	13,540	18,980	15,030	17,540
Mullaithivu	4,500	8,190	3,820	2,250	2,200
Kilinochchi			1,480	2,760	3,130
Jaffna			12,340	28,550	33,980
Mannar			16,930	16,630	17,060
Total	217,500	263,680	274,760	254,680	253,190

(FAO 2006)