

## CHAPTER 10. FINANCIAL ANALYSIS

After you have planned how much fish you will buy, what products you will make, what kind of facilities and equipment and labor you need, how you will market your products, and how you will finance your plant, you are ready to do a financial analysis of your fish plant. To do a financial analysis, you add up all your costs and all your sales revenues, and see how they compare.

To do a financial analysis, you need to use your best judgment. Until you actually build your plant, you can't know for sure what your facilities and equipment will cost. Until you actually operate your plant, you won't find out how many fish you can actually buy, or what you have to pay fishermen to be competitive, or how much you can earn from selling the products you make. So for planning purposes you make your best guesses, or assumptions, about what your costs and revenues will be. Doing a financial analysis means systematically laying out assumptions about your plant's costs and revenues.

### Financial Analysis Form

The table on the next page shows a blank "financial analysis form" which you can use to do a financial analysis for your fish plant. You don't have to use this particular form. There are many other ways to show a financial analysis. But they all involve the same kinds of calculations—they just show them in different ways. We designed this financial analysis form to fit all the assumptions and calculations on one page, and to show the calculations as simply as possible.

Our financial analysis form simplifies many of the steps of financial planning. For example, it only asks you to provide an estimate of the labor cost per pound in processing fish. Before someone would give you a grant or a loan to help build a fish plant, you would probably have to do a more detailed financial analysis showing how many workers you would actually hire and the total amount you expect to pay for their wages and their unemployment insurance each month. But our financial analysis form is a good starting point for comparing your likely costs and sales revenues and seeing whether your plant is likely to be profitable.

The page after the blank form explains how to fill out the financial analysis form. All the blank spaces without shading are for assumptions, which you provide. If you have worked through the planning steps in this handbook, then you have already prepared these assumptions. All the shaded spaces in the form are for calculations based on your assumptions.

<p>It is much easier to do a financial analysis if you use a computer spreadsheet. If you would like a spreadsheet copy of our financial analysis form, with the formulas for the calculations already filled in, we can e-mail it to you. To request a copy, send a message to <a href="mailto:Gunnar.Knapp@uaa.alaska.edu">Gunnar.Knapp@uaa.alaska.edu</a>.</p>
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**Financial Analysis Form for a Village Fish Processing Plant**

OVERHEAD COSTS	1	Loan payments	
	2	Fixed labor costs	
	3	Building maintenance	
	4	Equipment maintenance	
	5	Insurance	
	6	Professional services	
	7	Other fixed costs	
	8	Total overhead costs	

The blank spaces in the form are for assumptions which you provide. The shaded spaces are for calculations based on the assumptions.

FISH COSTS	9	Species	
	10	Round pounds purchased	
	11	Price paid to fishermen per pound	
	12	Tendering and ice cost per pound	
	13	Combined fish taxes rate	
	14	Payments to fishermen	
	15	Tendering and ice costs	
	16	Fish taxes	
	17	Total fish cost	

PROCESSING AND SELLING COSTS	18	Products					
	19	Round pounds processed					
	20	Product yield					
	21	Direct labor cost per pound					
	22	Utilities, packaging & supplies cost/lb					
	23	Cold storage cost per pound					
	24	Freight cost per pound					
	25	Sales commission (%)					
	26	Production (finished pounds)					
	27	Direct labor cost					
	28	Utilities, packaging & supplies cost					
	29	Cold storage cost					
	30	Freight cost					
	31	Sales commission cost					
	32	Total processing and selling costs					
SALES REVENUES	33	Sales price per pound					
	34	Sales revenues					

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	
	36	Total fish cost	
	37	Total processing and selling costs	
	38	Total costs	
	39	Total sales revenues	
	40	Profit or loss	

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products				
	42	Overhead cost per round lb				
	43	Fish cost per round lb				
	44	Processing & selling cost per round lb				
	45	Roe profit per round lb				
	46	Total cost per round lb				
	47	Sales price per round lb				
	48	Profit per round lb including overhead				
	49	Profit per round lb excluding overhead				

### How to Fill Out the Financial Analysis Form for a Village Fish Processing Plant

OVERHEAD COSTS	1	Loan payments		Write in your best estimates of these fixed costs.
	2	Fixed labor costs		
	3	Building maintenance		
	4	Equipment maintenance		
	5	Insurance		
	6	Professional services		
	7	Other fixed costs		
	8	Total overhead costs		Add up Lines 1-7

FISH COSTS	9	Species		Write in the species you will purchase. Use as many columns as necessary.
	10	Round pounds purchased		Write in your best estimates for each species
	11	Price paid to fishermen per pound		
	12	Tendering and ice cost per pound		
	13	Combined fish taxes rate		Write in the total tax rate (usually 3.3%)
	14	Payments to fishermen		Multiply Line 10 x Line 11
	15	Tendering and ice costs		Multiply Line 10 x Line 12
	16	Fish taxes		Multiply Line 13 x Line 14
	17	Total fish cost		Add up Lines 14-16

PROCESSING AND SELLING COSTS	18	Products		Write in the products you will make. Use as many columns as necessary.
	19	Round pounds processed		Write in the round pounds you expect to process into each product. The total for each species should equal Line 10. Leave this row blank for roe products.
	20	Product yield		
	21	Direct labor cost per pound		Write in your best estimates for each product
	22	Utilities, packaging & supplies cost/lb		
	23	Cold storage cost per pound		
	24	Freight cost per pound		
	25	Sales commission (%)		
	26	Production (finished pounds)		Multiply Line 19 x Line 20. For roe products, multiply Line 10 by Line 20.
	27	Direct labor cost		Multiply Line 21 x Line 26
	28	Utilities, packaging & supplies cost		Multiply Line 22 x Line 26
	29	Cold storage cost		Multiply Line 23 x Line 26
	30	Freight cost		Multiply Line 24 x Line 26
	31	Sales commission cost		Multiply Line 25 x Line 34
	32	Total processing and selling costs		Add up Lines 27-31
SALES REVENUES	33	Sales price per pound		Write in your best estimates for each product
	34	Sales revenues		Line 26 x Line 33

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs		Same as Line 8
	36	Total fish cost		Same as Line 17
	37	Total processing and selling costs		Same as Line 32
	38	Total costs		Add up Lines 35-37
	39	Total sales revenues		Same as Line 34
	40	Profit or loss		Subtract Line 38 from Line 39

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products		Write in the products you will make, but don't include roe products. Use as many columns as necessary.
	42	Overhead cost per round lb		Divide Line 8 by Line 10
	43	Fish cost per round lb		Divide Line 17 by Line 10
	44	Processing & selling cost per round lb		Divide Line 32 by Line 10
	45	Roe profit per round lb		For the roe column for this species, subtract Line 32 from Line 34. Divide the result by Line 10.
	46	Total cost per round lb		Line 42 + Line 43 + Line 44 - Line 45
	47	Sales price per round lb		Same as Line 33
	48	Profit per round lb including overhead		Subtract Line 46 from Line 47
	49	Profit per round lb excluding overhead		Subtract line 42 from Line 48

## **An Example of Financial Analysis for a Village Fish Plant**

To explain how to do a financial analysis, we will work through an example for a hypothetical village fish processing plant, which we call the “Salmon Island Fish Plant.” **You can do the same kind of financial analysis for a fish plant in your own village—but you will have to use different assumptions! The assumptions that would be right for your fish plant may be very different from those we use for our example.**

### **The “Salmon Island” Fish Plant**

For our example of how to do a financial analysis, we will use a hypothetical value-added fish processing plant in the imaginary village of "Salmon Island." The Salmon Island Fish Plant plans to buy 1,000,000 pounds of chum salmon per year and process it into fresh headed and gutted salmon, frozen vacuum packed fillets (pin-bone-out, skin-on), frozen vacuum-packed smoked fillets, and chum salmon ikura. Other parts of this handbook show estimates of equipment and supplies costs and other production assumptions for this fish plant.

Remember that a plant in your village might be similar to the "Salmon Island" plant, or it might be very different. You can do your financial analysis in the same way as our example. But you will have to use different assumptions that make sense for your plant.

### **Scenarios**

The results of any financial analysis depend on the assumptions you make. Some assumptions are very important, but they depend on factors that are difficult to predict, such as the run size and market conditions. So it's a good idea to rely on not just one financial analysis but instead do several different financial analyses to see how your financial results might vary in different circumstances with different assumptions. Each different analysis is called a "scenario."

For our financial analysis of the Salmon Island Fish Plant, we do analyses for five different scenarios. Scenario #1 is a financial analysis for our "most likely" assumptions.

The financial analysis form provides a way of comparing your costs and revenues over a given time period. The most common time period is a year. When you do a financial analysis for your fish plant, you should specify what time period it is for. You may want to do different financial analyses for different years of operation of your plant, if you expect that the plant will be changing—for example, processing more fish or producing different products.

# Financial Analysis for "Salmon Island Fish Plant"

Scenario #1: "Most likely" assumptions

OVERHEAD COSTS	1	Loan payments	
	2	Fixed labor costs	\$65,000
	3	Building maintenance	\$16,000
	4	Equipment maintenance	\$6,000
	5	Insurance	\$22,000
	6	Professional services	\$5,000
	7	Other fixed costs	\$40,250
	8	Total overhead costs	\$154,250

FISH COSTS	9	Species	<i>Chum salmon</i>
	10	Round pounds purchased	1,000,000
	11	Price paid to fishermen per pound	\$0.12
	12	Tendering and ice cost per pound	\$0.17
	13	Combined fish taxes rate	3.3%
	14	Payments to fishermen	\$120,000
	15	Tendering and ice costs	\$170,000
	16	Fish taxes	\$3,960
	17	Total fish cost	\$293,960

PROCESSING AND SELLING COSTS	18	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Ikura</i>	TOTAL
	19	Round pounds processed	300,000	600,000	100,000		1,000,000
	20	Product yield	74%	50%	35.0%	5%	
	21	Direct labor cost per pound	\$0.18	\$0.45	\$0.50	\$1.00	
	22	Utilities, packaging & supplies cost/lb	\$0.21	\$0.40	\$0.43	\$0.68	
	23	Cold storage cost per pound	\$0.00	\$0.06	\$0.06	\$0.00	
	24	Freight cost per pound	\$0.22	\$0.22	\$0.22	\$0.22	
	25	Sales comission (%)					
	26	Production (finished pounds)	222,000	300,000	35,000	50,000	607,000
	27	Direct labor cost	\$39,960	\$135,000	\$17,500	\$50,000	\$242,460
	28	Utilities, packaging & supplies cost	\$46,620	\$120,000	\$15,050	\$34,000	\$215,670
	29	Cold storage cost	\$0	\$18,000	\$2,100	\$0	\$20,100
	30	Freight cost	\$48,840	\$66,000	\$7,700	\$11,000	\$133,540
	31	Sales commission cost	\$0	\$0	\$0	\$0	\$0
	32	Total processing and selling costs	\$135,420	\$339,000	\$42,350	\$95,000	\$611,770
SALES REVENUES	33	Sales price per pound	\$0.90	\$1.75	\$4.00	\$7.00	
	34	Sales revenues	\$199,800	\$525,000	\$140,000	\$350,000	\$1,214,800

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	\$154,250
	36	Total fish cost	293,960
	37	Total processing and selling costs	\$611,770
	38	Total costs	\$1,059,980
	39	Total sales revenues	\$1,214,800
	40	Profit or loss	\$154,820

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Average</i>
	42	Overhead cost per round lb	\$0.15	\$0.15	\$0.15	\$0.15
	43	Fish cost per round lb	\$0.29	\$0.29	\$0.29	\$0.29
	44	Processing & selling cost per round lb	\$0.45	\$0.57	\$0.42	\$0.52
	45	Roe profit per round lb	\$0.26	\$0.26	\$0.26	\$0.26
	46	Total cost per round lb	\$0.64	\$0.76	\$0.62	\$0.71
	47	Sales price per round lb	\$0.67	\$0.88	\$1.40	\$0.86
	48	Profit per round lb including overhead	\$0.02	\$0.12	\$0.78	\$0.15
	49	Profit per round lb excluding overhead	\$0.18	\$0.27	\$0.94	\$0.31

## Overhead Costs

In the first part of the financial analysis form (Lines 1-8) you calculate your "overhead costs." These are costs that you will need to pay to operate the plant, regardless of how much fish you end up buying or processing. Overhead costs may also be referred to as "fixed costs" or "indirect costs."

Overhead costs can be a big part of the total costs for a small fish plant. Overhead costs make it important to think carefully about how much fish you will be able to buy and process. The less fish you process, the higher your overhead costs per pound will be. Overhead costs can make it difficult for a small fish plant to compete with big companies, which can spread their overhead costs over large volumes of fish.

Loan payments (Line 1) to repay loans for your building or equipment or season start-up costs can be a big part of overhead costs. However, in our first scenario the Salmon Island Fish Plant doesn't have any loan payments to make (perhaps because a grant paid for the plant and equipment).

"Indirect labor cost" (Line 2) includes the cost of the plant manager and other administrative and maintenance personnel not directly associated with fish processing operations. The Salmon Island Fish Plant has indirect labor costs of \$65,000 (most of which is for the manager's salary and a part-time secretary).

Write in your other overhead costs in Lines 3 through 7. See the chapter in this handbook on "Plant Operations" for more information on these other kinds of overhead costs.

Add up your total overhead costs in Line 8. In Scenario #1, the Salmon Island Fish Plant has total overhead costs of \$154,250.

## Fish Costs

In the second part of the financial analysis form (Lines 15-23) you calculate your "fish costs." These are all the costs involved in buying fish and getting them to the plant. Your fish costs will depend mostly on how much fish you buy and the prices you pay.

In Line 9, write in the names of the fish species you will buy. If you buy more than one species, you will need to add more columns to your "Fish Costs" section of the form, including a "Total" column to add up your fish costs for different species.

In Line 10, write in the total pounds of fish you plan to purchase. You multiply the volume of fish by the price per pound you will pay fishermen (Line 11) to calculate the total payments to fishermen (Line 14). You multiply the volume of fish by the cost per pound of tendering and icing (Line 12) to get total tendering and icing costs (Line 15). You multiply payments to fishermen (Line 14) by the combined fish taxes rate (Line 13) to calculate your fish taxes. Calculate your total fish costs by adding up lines 14 through

16. In Scenario #1, the Salmon Island Fish Plant has total fish costs of \$293,960, including \$120,000 for payments to fishermen and \$170,000 for tendering and icing.

### **Processing and Selling Costs**

In the third part of the financial analysis form (Lines 18-32) you calculate your "processing and sales costs." These are all the costs of processing and selling fish.

In Line 18, write the names of the fish products you will produce. You will need a column for each product, as well as a "Total" column. This will allow you to compare the profitability of different products you produce and to see how changing your mix of products might affect your profits.

In Line 19, write in how many round (unprocessed) pounds of fish you plan to process into each product. The total round pounds you process for each species should add up to the "round pounds purchased" for each species shown in line 10. Don't write anything in the columns for your roe products (because your roe is from the same fish as your other products). In Scenario #1, the Salmon Island Fish Plant is processing 300,000 pounds of fish into fresh H&G salmon, 600,000 pounds into frozen fillets, and 100,000 pounds into smoked fillets.

Write the yields that you expect for each product in Line 20. Multiply Line 20 by Line 19 to calculate the final product weight (Line 26). For roe products, multiply Line 10 (total round pounds processed) by Line 20 to calculate the total product weight. In Scenario #1, the Salmon Island Fish Plant is processing 300,000 round pounds of fish with a 74% yield into 222,000 finished pounds of headed and gutted fish. It is processing ikura from 1,000,000 pounds of fish purchased with a 5% yield, for a total ikura production of 50,000 pounds.

Write the direct labor cost per finished pound for each product in Line 21. Multiply Line 21 by the product weight (Line 26) to calculate the direct labor cost for each product (Line 27). In Scenario #1, the Salmon Island Fish Plant has direct labor costs of \$242,460.

Write the combined utilities, packaging and supplies cost per finished pound for each product in Line 22. Multiply Line 22 by the product weight (Line 26) to calculate the combined utilities, packaging and supplies cost for each product (Line 28). In Scenario #1, the Salmon Island Fish Plant has direct utilities, packaging and supplies costs of \$215,670.

Write the cold storage cost per finished pound for each product in Line 23. Multiply Line 23 by the product weight (Line 26) to calculate the cold storage cost for each product (Line 29). In Scenario #1, the Salmon Island Fish Plant has cold storage costs of \$20,100. It only pays cold storage costs for frozen fillets and smoked fillets, because the fresh headed and gutted fish and the ikura are sold right away.

Write the freight cost per finished pound for each product in Line 24. Multiply Line 24 by the product weight (Line 26) to calculate the freight cost for each product (Line 30). In Scenario #1, the Salmon Island Fish Plant has the same freight cost of 22 cents per pound for each product, for a total freight cost of \$133,540.

Write the sales commission percentage for each product in Line 25. Multiply Line 25 by your sales revenues (Line 34) to calculate the sales commission cost for each product (Line 32). In Scenario #1, the Salmon Island Fish Plant is not paying any sales commissions. (The manager is handling all of the sales, so the costs of sales are included in "fixed" labor costs.)

Calculate your total processing and selling costs (Line 32) by adding up Lines 27 through 31. In Scenario #1, the Salmon Island Fish Plant has total processing and selling costs of \$611,770.

### **Sales Revenues**

Write the sales price you expect for each product in Line 33. Multiply Line 33 by your finished product weight (Line 26) to calculate your sales revenues (Line 34). In Scenario #1, the Salmon Island Fish Plant has total sales revenues of \$1,214,800.

### **Total Costs, Revenues, and Profit**

Now that you've written in all of your assumptions and calculated your different costs, you can compare your costs and revenues to see if your plant is profitable. In Lines 35 through 37, write in your total overhead costs (from Line 8), fish costs (from Line 17) and processing and selling costs (from Line 32). Add up these costs to calculate your total costs (Line 38). Write in your total sales revenues in Line 39. Your profit (Line 40) is your total sales revenues (Line 39) minus your total costs (Line 38). In Scenario #1, the Salmon Island Fish Plant is making a profit of \$154,820.

### **Costs, Revenues, and Profit per Round Pound**

To compare how much profit you are earning from different products, it is useful to calculate your costs, revenues, and profit per round pound. This way you can find out whether you could earn more money by producing a different mix of products.

In Line 41, write in the names of the products you are producing. But don't include columns for your roe products. Because you produce roe when you produce your other products, you can think of the profits you earn from roe as adding to your profits for other products (or reducing your costs). Instead of a "total" column, include a column for calculating your "average" costs, revenues, and profit per round pound.

Calculate your overhead cost per round pound (Line 42) by dividing your total overhead costs (Line 8) by the total round pounds of fish you will purchase (Line 10). In Scenario #1, dividing the Salmon Island Fish Plant's total overhead costs of \$154,250 by



1,000,000 pounds of fish works out to an overhead cost of 15 cents per round pound. This overhead cost per round pound is the same for all of your products.

Calculate your fish cost per round pound (Line 43) by dividing your total fish costs (Line 17) by the total round pounds of fish you will purchase (Line 10). In Scenario #1, dividing the Salmon Island Fish Plant's total fish costs of \$293,960 by 1,000,000 pounds of fish works out to a fish cost of 29 cents per round pound. This fish cost per round pound is the same for all of your products.

Calculate your processing and selling cost per round pound (Line 44) by dividing your total processing and selling costs for each product (Line 32) by the total round pounds of fish you used to produce each product (Line 19). These processing and selling costs per round pound are different for each product. For example, in Scenario #1, the Salmon Island Fish Plant's processing and selling costs per round pound are 45 cents/lb for fresh headed and gutted fish, compared with 57 cents/lb for frozen fillets.

There are two reasons why processing and sales costs per round pound are different for each product. One reason is that the processing and selling costs per finished pound (Lines 21-25) are different for each product. The other reason is that the product yields (Line 20) are different for each product. In Scenario #1, even though the processing and selling costs per *finished* pound are much higher for smoked fillets than for fresh headed and gutted fish, the processing and selling costs per *round* pound are lower for smoked fillets (42 cents/lb) than for fresh headed and gutted fish (45 cents/lb). This is because the yield for smoked fillets (35%) is much lower than for fresh headed and gutted fish (74%).

Calculate your roe profit per round pound (Line 45) by subtracting your total roe processing and selling costs (Line 32) from your total roe sales revenues (Line 34), and dividing by the total round pounds of fish you will purchase (Line 10). In Scenario #1, subtracting total roe processing and selling costs of \$95,000 (Line 32) from total roe sales revenues of \$350,000 (Line 34) works out to total roe profits of \$255,000 (this number isn't shown on the form). Dividing total roe profits by 1,000,000 round pounds of fish works out to a roe profit of 26 cents per round pound. This roe profit per round pound is the same for all of your products.

Calculate your total cost per round pound (Line 46) by adding up your overhead cost, fish cost, and processing and selling costs per round pound (Lines 42 through 44) and subtracting your roe profit per round pound (line 45). You can think of the profits you earn from roe as reducing your costs in processing other fish. In Scenario #1, the Salmon Island Fish Plant's total costs per round pound are 64 cents/lb for fresh headed and gutted fish, 76 cents/lb for frozen fillets and 62 cents/lb for smoked fillets. All the difference between products is because of differences in processing and selling costs per round pound.

Calculate your sales price per round pound for each product (Line 47) by dividing your total sales revenue (Line 34) by the total round pounds of fish you used to produce each product (Line 19). Another way to calculate the sales price per round pound is to multiply

the sales price per finished pound (Line 33) by the product yield (Line 20). For example, in Scenario #1, the sales price per *finished* pound for smoked fillets is \$4.00/lb (Line 33). Multiplying this sales price by the product yield of 35% (Line 20) gives a sales price per *round* pound of \$1.40 per pound.

Finally, you can calculate your profit per round pound including overhead (Line 48) by subtracting your total cost per round pound (line 46) from your sales price per round pound (Line 47) for each product.

In Scenario #1, the Salmon Island Fish Plant's profit per round pound is 2 cents/lb for fresh headed and gutted fish, 12 cents/lb for frozen fillets and 78 cents/lb for smoked fillets. Smoked fillets are much more profitable per round pound than frozen fillets because they have a much higher sales price per round pound (\$1.40/lb compared with 88 cents/lb) but a lower total cost per round pound (62 cents/lb compared with 76 cents/lb). This shows that the Salmon Island Fish Plant could theoretically make more money by making more smoked fillets and less of other products, which are less profitable per round pound. (However, other factors such as smoking capacity may limit whether it is actually possible to switch to making more smoked fillets.)

Calculating your profits per round pound can help to show you which products would be most profitable for your plant to produce. Comparing profits per *round* pound (rather than per finished pound) is important because it takes account of differences in product yields. A product that is more profitable per finished pound won't necessarily earn you more money if it has a lower yield so you can't produce as much of it.

You can calculate your profit per round pound excluding overhead (Line 49) by subtracting your overhead cost per round pound (Line 42) from your profit per round pound including overhead (Line 48). Later in this chapter we will discuss why it is useful to calculate your profits per round pound excluding overhead.

### **Other Scenarios: Financial Analysis With Different Assumptions**

After you have prepared a financial analysis based on your "most likely" assumptions about how much fish you will buy, what you will produce, and your costs and sales prices per pound, you should calculate other scenarios to see how your financial analysis is affected by changing your assumptions.

As an example of how to do this, the next four pages show four alternative scenarios for the Salmon Island Fish Plant that use different assumptions than our first scenario. After those pages is a summary table that compares the key assumptions and calculations for all five scenarios. In reading through this section, you should look at each alternative scenario as well as the summary table to see how the different calculations work out and why each scenario is different.

# Financial Analysis for "Salmon Island Fish Plant"

Scenario #2: LOW RUN

OVERHEAD COSTS	1	Loan payments	
	2	Fixed labor costs	\$65,000
	3	Building maintenance	\$16,000
	4	Equipment maintenance	\$6,000
	5	Insurance	\$22,000
	6	Professional services	\$5,000
	7	Other fixed costs	\$40,250
	8	Total overhead costs	\$154,250

FISH COSTS	9	Species	<i>Chum salmon</i>
	10	Round pounds purchased	400,000
	11	Price paid to fishermen per pound	\$0.12
	12	Tendering and ice cost per pound	\$0.17
	13	Combined fish taxes rate	3.3%
	14	Payments to fishermen	\$48,000
	15	Tendering and ice costs	\$68,000
	16	Fish taxes	\$1,584
	17	Total fish cost	\$117,584

PROCESSING AND SELLING COSTS	18	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Ikura</i>	TOTAL
	19	Round pounds processed	120,000	240,000	40,000		400,000
	20	Product yield	74%	50%	35.0%	5%	
	21	Direct labor cost per pound	\$0.18	\$0.45	\$0.50	\$1.00	
	22	Utilities, packaging & supplies cost/lb	\$0.21	\$0.40	\$0.43	\$0.68	
	23	Cold storage cost per pound	\$0.00	\$0.06	\$0.06	\$0.00	
	24	Freight cost per pound	\$0.22	\$0.22	\$0.22	\$0.22	
	25	Sales commission (%)					
	26	Production (finished pounds)	88,800	120,000	14,000	20,000	242,800
	27	Direct labor cost	\$15,984	\$54,000	\$7,000	\$20,000	\$96,984
	28	Utilities, packaging & supplies cost	\$18,648	\$48,000	\$6,020	\$13,600	\$86,268
	29	Cold storage cost	\$0	\$7,200	\$840	\$0	\$8,040
	30	Freight cost	\$19,536	\$26,400	\$3,080	\$4,400	\$53,416
	31	Sales commission cost	\$0	\$0	\$0	\$0	\$0
	32	Total processing and selling costs	\$54,168	\$135,600	\$16,940	\$38,000	\$244,708
SALES REVENUES	33	Sales price per pound	\$0.90	\$1.75	\$4.00	\$7.00	
	34	Sales revenues	\$79,920	\$210,000	\$56,000	\$140,000	\$485,920

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	\$154,250
	36	Total fish cost	117,584
	37	Total processing and selling costs	\$244,708
	38	Total costs	\$516,542
	39	Total sales revenues	\$485,920
	40	Profit or loss	-\$30,622

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Average</i>
	42	Overhead cost per round lb	\$0.39	\$0.39	\$0.39	\$0.39
	43	Fish cost per round lb	\$0.29	\$0.29	\$0.29	\$0.29
	44	Processing & selling cost per round lb	\$0.45	\$0.57	\$0.42	\$0.52
	45	Roe profit per round lb	\$0.26	\$0.26	\$0.26	\$0.26
	46	Total cost per round lb	\$0.88	\$0.99	\$0.85	\$0.94
	47	Sales price per round lb	\$0.67	\$0.88	\$1.40	\$0.86
	48	Profit per round lb including overhead	-\$0.21	-\$0.11	\$0.55	-\$0.08
	49	Profit per round lb excluding overhead	\$0.18	\$0.27	\$0.94	\$0.31

Financial Analysis for "Salmon Island Fish Plant"

Scenario #3: LOW SALES PRICE

OVERHEAD COSTS	1	Loan payments	
	2	Fixed labor costs	\$65,000
	3	Building maintenance	\$16,000
	4	Equipment maintenance	\$6,000
	5	Insurance	\$22,000
	6	Professional services	\$5,000
	7	Other fixed costs	\$40,250
	8	Total overhead costs	\$154,250

FISH COSTS	9	Species	<i>Chum salmon</i>
	10	Round pounds purchased	1,000,000
	11	Price paid to fishermen per pound	\$0.12
	12	Tendering and ice cost per pound	\$0.17
	13	Combined fish taxes rate	3.3%
	14	Payments to fishermen	\$120,000
	15	Tendering and ice costs	\$170,000
	16	Fish taxes	\$3,960
	17	Total fish cost	\$293,960

PROCESSING AND SELLING COSTS	18	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Ikura</i>
	19	Round pounds processed	300,000	600,000	100,000	
	20	Product yield	74%	50%	35.0%	5%
	21	Direct labor cost per pound	\$0.18	\$0.45	\$0.50	\$1.00
	22	Utilities, packaging & supplies cost/lb	\$0.21	\$0.40	\$0.43	\$0.68
	23	Cold storage cost per pound	\$0.00	\$0.06	\$0.06	\$0.00
	24	Freight cost per pound	\$0.22	\$0.22	\$0.22	\$0.22
	25	Sales commission (%)				
	26	Production (finished pounds)	222,000	300,000	35,000	50,000
	27	Direct labor cost	\$39,960	\$135,000	\$17,500	\$50,000
	28	Utilities, packaging & supplies cost	\$46,620	\$120,000	\$15,050	\$34,000
	29	Cold storage cost	\$0	\$18,000	\$2,100	\$0
	30	Freight cost	\$48,840	\$66,000	\$7,700	\$11,000
	31	Sales commission cost	\$0	\$0	\$0	\$0
	32	Total processing and selling costs	\$135,420	\$339,000	\$42,350	\$95,000
SALES REVENUES	33	Sales price per pound	\$0.72	\$1.40	\$3.20	\$5.60
	34	Sales revenues	\$159,840	\$420,000	\$112,000	\$280,000

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	\$154,250
	36	Total fish cost	293,960
	37	Total processing and selling costs	\$611,770
	38	Total costs	\$1,059,980
	39	Total sales revenues	\$971,840
	40	Profit or loss	-\$88,140

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Average</i>
	42	Overhead cost per round lb	\$0.15	\$0.15	\$0.15	\$0.15
	43	Fish cost per round lb	\$0.29	\$0.29	\$0.29	\$0.29
	44	Processing & selling cost per round lb	\$0.45	\$0.57	\$0.42	\$0.52
	45	Roe profit per round lb	\$0.19	\$0.19	\$0.19	\$0.19
	46	Total cost per round lb	\$0.71	\$0.83	\$0.69	\$0.78
	47	Sales price per round lb	\$0.53	\$0.70	\$1.12	\$0.69
	48	Profit per round lb including overhead	-\$0.18	-\$0.13	\$0.43	-\$0.09
	49	Profit per round lb excluding overhead	-\$0.03	\$0.03	\$0.59	\$0.07

Financial Analysis for "Salmon Island Fish Plant"  
Scenario #4: MORE VALUE ADDED PRODUCTION

OVERHEAD COSTS	1	Loan payments	
	2	Fixed labor costs	\$65,000
	3	Building maintenance	\$16,000
	4	Equipment maintenance	\$6,000
	5	Insurance	\$22,000
	6	Professional services	\$5,000
	7	Other fixed costs	\$40,250
	8	Total overhead costs	\$154,250

FISH COSTS	9	Species	<i>Chum salmon</i>
	10	Round pounds purchased	1,000,000
	11	Price paid to fishermen per pound	\$0.12
	12	Tendering and ice cost per pound	\$0.17
	13	Combined fish taxes rate	3.3%
	14	Payments to fishermen	\$120,000
	15	Tendering and ice costs	\$170,000
	16	Fish taxes	\$3,960
	17	Total fish cost	\$293,960

PROCESSING AND SELLING COSTS	18	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Ikura</i>	TOTAL
	19	Round pounds processed	100,000	700,000	200,000		1,000,000
	20	Product yield	74%	50%	35.0%	5%	
	21	Direct labor cost per pound	\$0.18	\$0.45	\$0.50	\$1.00	
	22	Utilities, packaging & supplies cost/lb	\$0.21	\$0.40	\$0.43	\$0.68	
	23	Cold storage cost per pound	\$0.00	\$0.06	\$0.06	\$0.00	
	24	Freight cost per pound	\$0.22	\$0.22	\$0.22	\$0.22	
	25	Sales commission (%)					
	26	Production (finished pounds)	74,000	350,000	70,000	50,000	544,000
	27	Direct labor cost	\$13,320	\$157,500	\$35,000	\$50,000	\$255,820
	28	Utilities, packaging & supplies cost	\$15,540	\$140,000	\$30,100	\$34,000	\$219,640
	29	Cold storage cost	\$0	\$21,000	\$4,200	\$0	\$25,200
	30	Freight cost	\$16,280	\$77,000	\$15,400	\$11,000	\$119,680
	31	Sales commission cost	\$0	\$0	\$0	\$0	\$0
	32	Total processing and selling costs	\$45,140	\$395,500	\$84,700	\$95,000	\$620,340
SALES REVENUES	33	Sales price per pound	\$0.90	\$1.75	\$4.00	\$7.00	
	34	Sales revenues	\$66,600	\$612,500	\$280,000	\$350,000	\$1,309,100

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	\$154,250
	36	Total fish cost	293,960
	37	Total processing and selling costs	\$620,340
	38	Total costs	\$1,068,550
	39	Total sales revenues	\$1,309,100
	40	Profit or loss	\$240,550

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Average</i>
	42	Overhead cost per round lb	\$0.15	\$0.15	\$0.15	\$0.15
	43	Fish cost per round lb	\$0.29	\$0.29	\$0.29	\$0.29
	44	Processing & selling cost per round lb	\$0.45	\$0.57	\$0.42	\$0.53
	45	Roe profit per round lb	\$0.26	\$0.26	\$0.26	\$0.26
	46	Total cost per round lb	\$0.64	\$0.76	\$0.62	\$0.72
	47	Sales price per round lb	\$0.67	\$0.88	\$1.40	\$0.96
	48	Profit per round lb including overhead	\$0.02	\$0.12	\$0.78	\$0.24
	49	Profit per round lb excluding overhead	\$0.18	\$0.27	\$0.94	\$0.39

# Financial Analysis for "Salmon Island Fish Plant"

Scenario #5: **HIGH OVERHEAD**

OVERHEAD COSTS	1	Loan payments	\$200,000
	2	Fixed labor costs	\$65,000
	3	Building maintenance	\$16,000
	4	Equipment maintenance	\$6,000
	5	Insurance	\$22,000
	6	Professional services	\$5,000
	7	Other fixed costs	\$40,250
	8	Total overhead costs	\$354,250

FISH COSTS	9	Species	<i>Chum salmon</i>
	10	Round pounds purchased	1,000,000
	11	Price paid to fishermen per pound	\$0.12
	12	Tendering and ice cost per pound	\$0.17
	13	Combined fish taxes rate	3.3%
	14	Payments to fishermen	\$120,000
	15	Tendering and ice costs	\$170,000
	16	Fish taxes	\$3,960
	17	Total fish cost	\$293,960

PROCESSING AND SELLING COSTS	18	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Ikura</i>	TOTAL
	19	Round pounds processed	300,000	600,000	100,000		1,000,000
	20	Product yield	74%	50%	35.0%	5%	
	21	Direct labor cost per pound	\$0.18	\$0.45	\$0.50	\$1.00	
	22	Utilities, packaging & supplies cost/lb	\$0.21	\$0.40	\$0.43	\$0.68	
	23	Cold storage cost per pound	\$0.00	\$0.06	\$0.06	\$0.00	
	24	Freight cost per pound	\$0.22	\$0.22	\$0.22	\$0.22	
	25	Sales commission (%)					
	26	Production (finished pounds)	222,000	300,000	35,000	50,000	607,000
	27	Direct labor cost	\$39,960	\$135,000	\$17,500	\$50,000	\$242,460
	28	Utilities, packaging & supplies cost	\$46,620	\$120,000	\$15,050	\$34,000	\$215,670
	29	Cold storage cost	\$0	\$18,000	\$2,100	\$0	\$20,100
	30	Freight cost	\$48,840	\$66,000	\$7,700	\$11,000	\$133,540
	31	Sales commission cost	\$0	\$0	\$0	\$0	\$0
	32	Total processing and selling costs	\$135,420	\$339,000	\$42,350	\$95,000	\$611,770
SALES REVENUES	33	Sales price per pound	\$0.90	\$1.75	\$4.00	\$7.00	
	34	Sales revenues	\$199,800	\$525,000	\$140,000	\$350,000	\$1,214,800

TOTAL COSTS, REVENUES, AND PROFIT	35	Total overhead costs	\$354,250
	36	Total fish cost	293,960
	37	Total processing and selling costs	\$611,770
	38	Total costs	\$1,259,980
	39	Total sales revenues	\$1,214,800
	40	Profit or loss	-\$45,180

COSTS, REVENUES, AND PROFIT PER ROUND POUND	41	Products	<i>H&amp;G</i>	<i>Frozen fillets</i>	<i>Smoked fillets</i>	<i>Average</i>
	42	Overhead cost per round lb	\$0.35	\$0.35	\$0.35	\$0.35
	43	Fish cost per round lb	\$0.29	\$0.29	\$0.29	\$0.29
	44	Processing & selling cost per round lb	\$0.45	\$0.57	\$0.42	\$0.52
	45	Roe profit per round lb	\$0.26	\$0.26	\$0.26	\$0.26
	46	Total cost per round lb	\$0.84	\$0.96	\$0.82	\$0.91
	47	Sales price per round lb	\$0.67	\$0.88	\$1.40	\$0.86
	48	Profit per round lb including overhead	-\$0.18	-\$0.08	\$0.58	-\$0.05
	49	Profit per round lb excluding overhead	\$0.18	\$0.27	\$0.94	\$0.31

Effects of Changing Key Assumptions on Financial Analysis for "Salmon Island Fish Plant"

Scenario		1 "Most likely" assumptions	2 Low run	3 Low sales prices	4 More value added	5 High overhead
Key Assumptions	Total overhead costs	\$154,250	\$154,250	\$154,250	\$154,250	<b>\$354,250</b>
	Round pounds purchased	1,000,000	<b>400,000</b>	1,000,000	1,000,000	1,000,000
	Price paid to fishermen per lb	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
	Round pounds processed:					
	H&G	300,000	120,000	300,000	<b>100,000</b>	300,000
	Filletts PBO skin-on	600,000	240,000	600,000	<b>700,000</b>	600,000
	Smoked filletts PBO	100,000	40,000	100,000	<b>200,000</b>	100,000
	Sales price per pound					
	H&G	\$0.90	\$0.90	<b>\$0.72</b>	\$0.90	\$0.90
	Filletts PBO skin-on	\$1.75	\$1.75	<b>\$1.40</b>	\$1.75	\$1.75
Total costs, revenues, and profit	Smoked filletts PBO	\$4.00	\$4.00	<b>\$3.20</b>	\$4.00	\$4.00
	Chum ikura	\$7.00	\$7.00	<b>\$5.60</b>	\$7.00	\$7.00
	Total overhead costs	\$154,250	\$154,250	\$154,250	\$154,250	\$354,250
	Total fish cost	293,960	117,584	293,960	293,960	293,960
	Total processing & selling costs	\$611,770	\$244,708	\$611,770	\$620,340	\$611,770
	Total costs	\$1,059,980	\$516,542	\$1,059,980	\$1,068,550	\$1,259,980
Costs, revenues, and profits per round pound	Total sales revenues	\$1,214,800	\$485,920	\$971,840	\$1,309,100	\$1,214,800
	<b>Profit or loss</b>	<b>\$154,820</b>	<b>-\$30,622</b>	<b>-\$88,140</b>	<b>\$240,550</b>	<b>-\$45,180</b>
	H&G					
	Total cost per round lb	\$0.64	\$0.88	\$0.71	\$0.64	\$0.84
	Sales price per round lb	\$0.67	\$0.67	\$0.53	\$0.67	\$0.67
	Profit per round lb inc. overhead	\$0.02	-\$0.21	-\$0.18	\$0.02	-\$0.18
	FILLETS PBO SKIN-ON					
	Total cost per round lb	\$0.76	\$0.99	\$0.83	\$0.76	\$0.96
	Sales price per round lb	\$0.88	\$0.88	\$0.70	\$0.88	\$0.88
	Profit per round lb inc. overhead	\$0.12	-\$0.11	-\$0.13	\$0.12	-\$0.08
	SMOKED FILLETS PBO					
	Total cost per round lb	\$0.62	\$0.85	\$0.69	\$0.62	\$0.82
	Sales price per round lb	\$1.40	\$1.40	\$1.12	\$1.40	\$1.40
	Profit per round lb inc. overhead	\$0.78	\$0.55	\$0.43	\$0.78	\$0.58
	AVERAGE					
	Total cost per round lb	\$0.71	\$0.94	\$0.78	\$0.72	\$0.91
	Sales price per round lb	\$0.86	\$0.86	\$0.69	\$0.96	\$0.86
	Profit per round lb inc. overhead	\$0.15	-\$0.08	-\$0.09	\$0.24	-\$0.05

## **Scenario #2: Low Run**

To see how a lower than expected run would affect the financial analysis for the Salmon Island Fish Plant, in Scenario #2 we reduced the total round pounds purchased (Line 10) to 400,000 pounds, compared with 1,000,000 pounds in Scenario 1. We assumed that the plant would continue to produce products in the same proportions (Line 19).

Buying less fish results in lower fish costs, lower processing and selling costs, and lower sales revenues. However, the overhead costs for the plant remain the same. As a result, in Scenario #2 the fish plant has a loss of \$30,662.

A different way to look at the effects of buying less fish is to look at costs, revenues and profits per round pound (Lines 42-49). The only thing that changes from Scenario #1 is the overhead costs per round pound, which increase from 15 cents/lb in Scenario #1 to 39 cents/lb in Scenario #2. Overhead costs per pound go up because the same total overhead costs are being spread over a smaller volume of fish.

With higher overhead costs per pound, the plant loses money on headed and gutted fresh fish (-21 cents per round pound) and frozen fillets (-11 cents per round pound), but it still makes money on smoked fillets (55 cents per round pound). On average it loses money (-8 cents per round pound).

## **Scenario #3: Low Sales Prices**

To see how lower sales prices would affect the financial analysis for the Salmon Island Fish Plant, in Scenario #3 we reduced the sales price for each product (Line 33) by 20%. With lower sales prices, the plant earns less sales revenues, and instead of making a profit the plant has a loss of \$88,140.

All the costs per round pound are the same, but the roe profit per round pound is lower and the sales prices per round pound are lower. The plant loses money on headed and gutted fresh fish (-18 cents per round pound) and frozen fillets (-13 cents per round pound), but it still makes money on smoked fillets (43 cents per round pound). On average it loses money (-9 cent per round pound).

## **Scenario #4: More Value Added Production**

To see how doing more value added production would affect the financial analysis for the Salmon Island Fish Plant, in Scenario #4 the plant produces less headed and gutted fresh fish and more frozen and smoked fillets (Line 19). Because these products are more profitable, the plant's profits increase to \$240,550.

The costs and the sales price per round pound are the same for each product. But because production shifts towards the more profitable products, the average profits per round pound are higher (24 cents/lb compared with 15 cents /lb in Scenario #1).



## **Scenario #5: High Overhead**

To see how higher overhead costs would affect the financial analysis for the Salmon Island Fish Plant, in Scenario #5 we assumed that in addition to its other overhead costs the plant also has to make a loan payment of \$200,000 (Line 1). This increases total overhead costs to \$354,250 (Line 8).

Without the loan payment, the plant was making a profit of \$154,820 (Scenario #1). Having to pay a \$200,000 loan payment means that the plant instead has a loss of \$45,180.

Higher overhead costs for the same volume of fish cause the overhead costs to go up from 15 cents per round pound to 35 cents per round pound. The plant loses money on headed and gutted fresh fish (-18 cents per round pound) and frozen fillets (-8 cents per round pound), but it still makes money on smoked fillets (58 cents per round pound). On average it loses money (-05 cents per round pound).

## **Other Scenarios**

The five scenarios we have looked at are only a few examples of the scenarios we could calculate for the Salmon Island Fish Plant. If your financial analysis is in a computer spreadsheet, you can quickly and easily see how your fish plant's profitability would be affected by many other kinds of changes in your assumptions. For example, you could see how profits are affected by changing your yield, costs, or price assumptions for just some products. You may also wish to see how changing several different assumptions at once affects your profits—for example, if you bought less fish but prices were higher.

## **Using Financial Analysis for Planning Your Fish Plant**

Once you have prepared a financial analysis spreadsheet for your fish plant you can use it to help plan your plant and to make important decisions.

## **Understanding Your Plant's Finances**

A financial analysis is a very useful tool in understanding your plant's finances and seeing how they are affected by different factors. Putting together all your assumptions about costs, sales prices, how much fish you will buy, and what you will produce can help you see things you might not have thought of. For example, it may show you that a particular product isn't profitable because your yields are too low, or transportation costs are too high. It may show you that making your plant bigger won't pay because it will add too much to your overhead costs—or that it will pay because it will allow you to install machinery that will reduce your labor costs. It may help you to spot areas where your costs are unusually high. You can use this kind of information to change your plans so your plant can be more profitable.

As you prepare your financial analysis, get other people to review it. They may spot mistakes you have made or think of things you have forgotten. They can provide a reality check for your assumptions about costs, yields, and sales prices.

### **Deciding Which Products to Produce**

In addition to showing whether you can meet your financial objectives, your financial analysis can help you decide which products your plant should produce. Your calculations of profits per round pound (Line 48) can help show you which products are most profitable. For example, Scenario #4 showed that the Salmon Island Fish Plant could make more money by producing more value added products.

However, your plant won't necessarily be able to produce only the most profitable products. What you can produce may be limited by the availability of transportation, freezer capacity, equipment capacity, the number of workers you have, and many other factors. So you may have to produce some products that earn you less profit per round pound, but can be processed fast and can keep up with peak deliveries.

Your financial analysis may show that you are losing money on some products when you include overhead costs per pound. For example, in Scenario #2, the Salmon Island Fish Plant is losing 21 cents per round pound on fresh headed and gutted fish (Line 48).

However, even if you are losing money when you include overhead costs per pound, it may still make sense to produce that product if you don't have the option of producing other, more profitable products—as long as the product is profitable when you don't include overhead costs. That's because your overhead costs are fixed: you have to pay them regardless of what you produce. If you are going to operate the plant anyway, as long as you make more money from selling a product than the cost of buying the fish and processing and selling it, it makes sense to produce the product even if you don't earn enough to fully cover the overhead costs per pound.

For example, in Scenario #2, the Salmon Island Fish Plant would be making profits of 18 cents per round pound on fresh headed and gutted fish if overhead costs were not included (Line 49). If the plant is going to operate anyway, and if the plant doesn't have the option of switching to more profitable products, it still makes sense for it to continue to produce fresh headed and gutted fish. Even though the plant will lose money, it won't lose as much money.

### **Raising Financial Support**

A very practical use of your financial analysis is that you can show it to people and organizations you are asking for loans or other financial assistance. Government and lending organizations will almost always want to see a financial analysis before they will be willing to give you grants or loans. They will want to see whether your financial analysis shows that your fish plant is likely to meet its financial objectives. They will also use the financial analysis as a measure of how careful you have been in your planning. If

you have done your financial analysis well, they are more likely to think your fish plant will be run well, and they will treat your request for financial assistance more seriously.

### **Deciding Whether or Not to Build and Operate Your Plant**

The most important decision, of course, is whether or not you should build your plant and operate it. This depends on your financial objectives and what your financial analysis tells you about your ability to meet your financial objectives.

If you have thought carefully about your financial objectives (see the "Financial Objectives" planning step) then you have thought about whether your objective is to make a profit or to just break even, or whether you can afford to lose some money (although your fish plant probably won't be able to operate very long if it regularly loses money, even if you get help from other organizations such as a CDQ group or government agencies).

You should use your financial analysis to think carefully about whether or not you are likely to be able to meet your financial objectives. Is your fish plant likely to make profits, break even, or lose money? How much money are you likely to make or lose compared with your financial objectives?



As our different scenarios for the Salmon Island Fish Plant showed, how much money your fish plant is likely to make or lose will depend on factors that may be hard to predict, such as how much fish you can buy and your sales prices. Your financial analysis may show that your plant is neither a sure success nor a sure failure. Whether you can meet your financial objectives may depend on what happens to fish runs, fish prices, and other factors beyond your control.

In deciding whether or not to go ahead with the plant, you will need to balance how likely it is that you will or won't be able to meet your financial objectives against what kind of risk you are willing to take.

In deciding what kind of risk you should take, you also need to think about the potential consequences of not meeting your financial objectives. If you didn't make enough money, who would be hurt, and by how much? If you are building and operating the plant with your own money, then you probably want to be very careful about risking your money if the plant doesn't meet your financial objectives.



If someone else is giving you a grant or a loan to start the plant, then you may not care as much if the plant doesn't meet its financial objectives. But, whoever is providing the grant or loan may care a great deal. That is why lenders will probably want to see a careful financial analysis that demonstrates the plant is likely to be able to meet its financial objectives and that you will be able to pay back any loans they make for the plant.



### Planning step: Financial Analysis

Prepare a financial analysis for your plant. You can use the financial analysis form from this handbook, or you can show your assumptions and calculations in another way. What is important is to write down your assumptions about your overhead costs, your fish costs, your processing and selling costs, and your sales prices, and to use those assumptions to estimate your total costs, revenues and profits. Be sure to include all the kinds of costs shown in the financial analysis form, and any other costs that may apply to your plant.

In addition to preparing a financial analysis based on your "most likely" assumptions, prepare other versions or scenarios showing how your costs, revenues and profits would be affected by using other assumptions. In particular, you should show how your plant's financial performance would be affected by lower production or by lower prices than you used for your "most likely" assumptions.

Under your "most likely" assumptions, will your plant make a profit, break even, or lose money? What is your "most likely" level of profits or losses?

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How would low fish runs in your area affect your plant's financial performance?

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How would your plant's financial performance be affected if the prices you receive for your products are lower than your "most likely" assumptions?

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What other difficult-to-predict factors might affect your plant's financial performance? How would they affect it?

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What are the biggest financial risks your plant faces?

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### **Planning Step: Comparing Financial Analysis and Objectives**

Compare the results of your financial analysis with your financial objectives. Is the plant likely to meet your financial objectives?

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What circumstances might keep the plant from meeting your financial objectives? How likely or unlikely is it that those circumstances could occur?

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If the plant doesn't meet your financial objectives, what will the consequences be? Who will be affected, and how will they be affected?

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**Have you done a careful financial analysis for your Fish Plant?**

**Are your assumptions about fish purchases, yields, costs, and selling prices realistic? Did you avoid wishful thinking?**

**Have you thought about how your plant's financial performance would be affected if fish harvests or prices are lower than you assumed?**

**Have you thought about how likely you are to meet your financial objectives?**

**Have you thought about the consequences if you don't meet your financial objectives?**

## More Detailed Financial Analysis

Our financial analysis form simplifies many of the steps of financial planning. It is a useful way to start financial planning for your Fish Plant. But to get a loan or grant to help build a Fish Plant, you will probably need to do a more formal financial analysis called a business plan. Here are some other financial estimates you may need to prepare for your business plan:

**“Pro Forma” Income Projections.** This shows your projected annual expenses, revenues, and profit or loss. It is similar to our financial analysis form except that it lists expenses and revenues by standard accounting categories (A "pro forma" financial statement is one that shows how the actual operations of a business will turn out if certain assumptions are realized.)

**Pro-Forma Monthly Cash Flow Statement.** This shows your monthly projected cash receipts, spending, and cash balances. For a seasonal business like a Fish Plant, often you have large expenses—such as buying supplies and starting up the plant—before you start getting income from selling your fish. A cash flow statement shows the timing of your projected income and expenses, including when you may need to borrow money and when you will pay it back.

**Break-Even Analysis.** This shows the sales price and volume levels at which all of your Fish Plant’s expenses would be met, including your overhead costs, fish costs, and processing and selling costs.

**Capital Equipment List.** This shows the facilities and equipment you have, or will need to buy, to begin operating your plant and what each item is worth or will cost.

**Sources and Uses of Funds Estimate.** This shows where you will get your funding to start the plant and what you will use it for.

**Balance Sheet.** This shows the assets, liabilities and net worth of your fish plant business. It provides a snapshot of the financial condition of the business at one point.

You will probably need to get help from an accountant or financial consultant in preparing these kinds of financial estimates. But if you have done the financial analysis described in this chapter, you will have already done much of the work for preparing these estimates.

