

Business Skills Workshop #9  
Wednesday, July 14, 2010 & July 21, 2010

# Business Skills Training Handbook



Livelihood Development via Agro-Processing  
SFA2006 (GCP/RLA/167/EC) Location: Grenada

# Financial Management



**What is accounting?** Accounting is the system a business uses to identify, measure, and communicate financial information to others, inside and outside the organization. To be useful, all accounting information must be accurate, objective, consistent over time, and comparable to information supplied by other companies.



### **What is the accounting rule?**

For thousands of years, businesses and governments have kept records of their assets—valuable items they own or lease, such as equipment, cash, land, buildings, inventory, and investments. Claims against those assets are liabilities, or what the

business owes to its creditors—such as banks

and suppliers. For example, when a company borrows money to buy a building, the lender or creditor has a claim against the company's assets. What remains after liabilities have been deducted from assets is owners' equity:  $\text{Assets} - \text{Liabilities} = \text{Owners' equity}$ .

The most common is the simple accounting equation, which serves as the framework for the entire accounting process:  $\text{Assets} = \text{Liabilities} + \text{Owners' equity}$ .

This equation suggests that either creditors or owners provide all the assets in a corporation. However, the equation must always be in balance; in other words, one side of the equation must always equal the other side.



### **What is finance?**

Planning for a firm's current and future money needs is financial management, or finance. Financial management involves making decisions about alternative sources and uses of funds, with the goal of

maximizing a company's value. To achieve this goal, managers develop and implement

a firm's financial plan; monitor a firm's cash flow and decide how to create or use excess funds; budget for current and future expenditures and for capital investments; raise capital to finance the

enterprise for future growth; and interact with banks and capital markets.

### **What is financial management?**

Normally in the form of a budget, a financial plan is a document that shows the funds a firm will need for a period of time as well as the sources and uses of those funds. An underlying concept of any financial plan is that all money should be used productively. In accounting, income statements are prepared to determine the net income of a firm.



In finance, however, the focus is on cash flows. Although the firm's income is important, cash flows are even more important, because cash is necessary to purchase the assets and supplies a company needs to operate and to pay dividends to shareholders. One way financial managers improve a company's cash flow is by monitoring its working capital accounts: cash, inventory, accounts receivable, and accounts payable. Inventory is another area where financial managers can fine-tune the firm's cash flow.

Sometimes companies find themselves with more cash on hand than they need. Part of the financial manager's job is to make sure that excess cash is invested so that it earns as much interest as possible.

### **Important Points to remember:**

**Required Capital:** to be able to start the first production cycle. This includes:

- a. capital for acquisition of fixed assets, such as land, buildings, facilities, equipment, etc.
- b. working capital is used for the production costs required for the first production cycle.

**Production Costs:** are the costs incurred each time the output volume is produced. These are variable costs as these costs change with the output volume produced.

★ **Materials:** these are the costs we have to make to purchase the materials that are consumed in producing the estimated output volume, e.g. raw materials, chemicals, fertilizer, seeds, feed stuff, etc. The costs of durable materials, such as buildings, tools, equipment are not included here.

★ **Paid labor:** this is the costs of hiring external labor force or for paying family members to do certain tasks. Unpaid labor costs are not included. Usually micro-entrepreneurs do not pay salaries to themselves and therefore no costs are included here.

★ **Cost of use of facilities:** these are the costs like rent or fees paid to use land or facilities like drying facilities, storage, etc. This includes also any other costs directly related to the use of facilities/equipment, such as energy, water, gas, maintenance, etc.

## **Accounting**

Total income is gross sales plus other income. Gross Profit is total Income minus Production Costs. Remember that costs of fixed assets are not included in this computation. Gross Profit determines whether production costs can be recovered from the total income that the business generates. Net Cash Income is Gross Profit minus other Expenses. These include expenses incurred in selling, delivery or general administration. Net Cash Income is what remains from the income after deducting all costs and expenses of the enterprise. The net cash income becomes the source of working capital for the next cycle.

### **Net Cash Income**

Total Income:

Sales

+ Other Income

Less:

- Production Costs

- Materials

- Labor

- Use of facilities

=Gross Profit

Less:

-Other Expenses

-Transportation

-Administration

-Tax

-Other costs of selling and

-delivery

=Net Cash Income

## **Finance**

The manager using art of finance sets a standard for expenditures, provides guidelines for controlling costs, and offers an integrated and detailed plan for the future. Once a budget has been developed, the finance manager or owner compares actual results with projections to discover variances and recommends corrective action—a process known as financial control. Companies also periodically adjust their budgets to meet their changing financial needs and goals.

# Break Even Analysis



**Estimating Breakeven Sales for Your Small Business** The breakeven amount of sales for a business venture is the dollar amount of sales at which your business earns neither a profit nor a loss. Annual sales that exceed this breakeven point generate profit for the business. Annual sales that fall short of the breakeven point result in a loss. Estimating breakeven sales and conducting a sensitivity analysis relative to breakeven sales can help you answer questions such as:

- What is the minimum dollar volume of sales needed to cover costs?
- How low must variable costs be to break even, based on price and sales forecasts?
- How low must fixed costs be to break even?
- How sensitive is breakeven sales volume to changes in prices or costs?
- How do changes in price levels affect the break even sales volume?
- What dollar volume of sales is required to not only break even, but to also generate a desired profit amount?

**Estimating breakeven sales** for your business venture can help you set goals relative concerning the sales volume you will need to achieve to be profitable. The time you invest in doing a breakeven analysis can help you make better decisions about how to manage your new venture.

### **Estimating Breakeven Sales**

You can calculate breakeven sales using a relatively simple formula. To use it, you will need the information below about your operating costs. An example for a new small business, Ms. Miriam's Seasonings, is used to illustrate the computation.

- Annual fixed cost: the costs of being in business, also known as overhead. These costs don't vary with the level of output of the business and would be incurred if production were to cease. They

include rent, insurance, depreciation, salaries, property taxes, and other costs that aren't directly associated with making or selling your product. Ms. Miriam's Seasonings expects annual fixed costs of \$8,000.

- Annual variable cost: the amount it costs you to buy or create the product you sell. Variable costs include raw material costs, direct labor, sales commissions, freight costs, packaging, and energy costs (fuel, electricity, natural gas) associated with producing the product. Ms. Miriam's Seasonings expects annual variable costs of \$12,000.

- Annual sales revenue: the revenue you receive from sales of your product. When estimating this number, you will want to multiply the price actually charged to customers (so make sure discounts and special offers are included) by the number of units you expect to sell. If you have created a sales forecast as part of a projected cash flow or income statement, then use that number. Ms. Miriam's Seasonings expects annual revenue of \$20,000.

Some expenses may not be easy to separate into their fixed and variable components because they contain elements of both. An example is Ms. Miriam's Seasonings electricity cost. A portion of the electric cost is attributable to lighting the production space, and the rest is attributable to producing products. Only the part associated with actually producing the product should be considered in variable costs. Bills for electricity for the factory will need to be paid as long as the business operates, regardless of how much product is sold; so are fixed costs.

The formula to calculate the breakeven annual sales is:

Total annual fixed costs

Breakeven sales (\$) =  $1 - (\text{Annual variable costs} / \text{Total sales})$

The formula in the denominator is used to calculate the contribution margin ratio. This is the percentage of each sales dollar available to cover fixed costs and contribute to net income.

Ms. Miriam's Seasonings anticipates fixed costs of \$8,000 per year, variable costs of \$12,000 per year, and sales revenue of \$20,000 per year.

For Ms. Miriam's Seasonings the calculation would be:

$$\begin{aligned} &\text{Breakeven sales (\$)} \\ &= \$8,000 \div 1 - (12,000 \div 20,000) \\ &= \$8,000 \div 0.40 \\ &= \$20,000 \end{aligned}$$

The contribution margin ratio of 0.40 indicates that 40% of every dollar of sales is available to pay fixed expenses. This \$.40 per dollar of sales in excess of breakeven sales is profit. With fixed expenses of \$8,000, the breakeven sales analysis shows that Ms. Miriam's Seasonings won't make any profits until it generates \$20,000 in gross revenue.

Mistakes are easy to make and the breakeven point is important to your business planning. So it's a good idea to check your calculations. To do this, compute the contribution margin based on sales of \$20,000 and variable costs of \$12,000. The breakeven point occurs at the dollar amount of sales that generates a contribution margin exactly equal to fixed costs. If the amount was computed correctly, the resulting contribution margin should be exactly equal to the \$8,000 amount of annual fixed costs. The calculation below for Ms. Miriam's Seasonings indicates that breakeven sales amount calculated above is correct.

Sales	\$20,000
minus Variable costs	<u>\$12,000</u>
equals Contribution margin	\$8,000

To convert the breakeven sales number to the equivalent number of units sold at the breakeven point, divide breakeven sales by the average selling price per unit. If Ms. Miriam's Seasonings sells each unit for an average of \$20, then they need to divide \$20,000 by \$20 to find out that they must sell 1,000 units in order to break even.

### **What if - Sensitivity Analysis**

Once you have estimated the break even sales amount you should use the breakeven sales computation to evaluate a variety of "what if" questions that will help you better understand the sensitivity of your new venture to changes in sales volume, prices and costs. With sensitivity analysis, managers can look at the potential effect of undesirable outcomes like a shortfall in sales or an overrun on costs. If Ms. Miriam's Seasonings receives \$20 for each unit, then its breakeven unit sales are 1,000. If the owners of Ms. Miriam's Seasonings estimated the total market demand for their product at 1,050 units, then they should be concerned about having a breakeven of 1,000 units. At 1,050 units, fixed costs are still \$8,000 and variable costs will be \$12,600 (variable costs per unit are \$12 and there are 50 additional units). The contribution margin will be only \$400, which is hardly likely to be enough profit to sustain the business long term.

What if Ms. Miriam's Seasonings owner has overestimated the number of units the business can sell, or what if the economy slows down unexpectedly after business start-up? Such a small margin for error may put the business' ability to cash flow at risk. The \$400

difference between expected sales and breakeven sales indicates how much sales can decline before the business loses money and, as a result, is called the margin of safety.

The owner of Ms. Miriam's Seasonings would like to achieve a minimum net income to sales ratio of 15%. Sales of 1,250 units won't even get them close to that goal. In fact, they will have to sell 1,600 units at \$20 each to achieve that goal. The larger the contribution margin ratio, the less that sales will need to exceed breakeven in order to achieve a particular profit objective. If Ms. Miriam's Seasonings could increase its contribution margin per unit, it could gain more profit from each unit sold.

The following table illustrates that increasing the quantity of product sold is not the only option for improving profitability. If Ms. Miriam's Seasonings can manage to cut either variable costs or fixed costs, net income will increase because breakeven sales will decline. Ms. Miriam's Seasonings can achieve an even greater effect on its net income by raising the price of the product by 25% (from \$20 per unit to \$25 per unit). While increasing the sales price of the product produces a benefit to net income, you will have to realize that customers will at some point react negatively to higher prices by buying fewer units.

		Breakeven	Sales Price 25% Higher	Unit Sales 25% Higher	Unit Sales 25% Lower	Variable Costs 25% Lower	Fixed Costs 25% Lower
1	Annual Sales	\$20,000	\$25,000	\$25,000	\$15,000	\$20,000	\$20,000
2	Unit Sales (1/ sale price)	1,000	1,000	1,250	750	1,000	1,000
3	Variable Cost	\$12,000	\$12,000	\$15,000	\$9,000	\$9,000	\$12,000
4	Contribution Margin (1-3)	\$8,000	\$13,000	\$10,000	\$6,000	\$11,000	\$8,000
5	Fixed Cost	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$6,000
6	Net income or profit (4-5)	\$0	\$5,000	\$2,000	-\$2,000	\$3,000	\$2,000
7	Net Income/ Sales (6/1)	0%	20%	8%	-13%	15%	10%

### **Adding a Profit Objective to Breakeven Sales**

Ms. Miriam's Seasonings may wish to target a particular profit level. For example, Ms. Miriam's Seasonings capital investment in its business is \$50,000. The company wants to earn 10% return on the investment. In this case, the \$5,000 profit required to achieve the objective can be viewed as a fixed cost of doing business. The dollar amount of product Ms. Miriam's Seasonings will have to sell not only to break even, but to also produce the desired profit can be calculated using the following formula:

$$\text{Breakeven sales} + \text{profit (\$)} = \frac{\text{Total annual fixed costs} + \text{Profit objective}}{1 - (\text{Annual variable costs} / \text{Total sales})}$$

Again, the contribution margin ratio for Ms. Miriam's Seasonings is .40 based on variable costs of \$12,000 and fixed costs of \$8,000. Doing the math indicates that Ms. Miriam's Seasonings will have to

sell 1,625 units at \$20 per unit, which means total sales will have to be \$32,500, in order to not only breakeven but also to earn \$5,000 in net income.

### **Final Comment**

Breakeven analysis is a useful tool for developing an understanding of the cost, volume, and profit relationships of a business. It provides some very useful information that will help new business owners make management decisions. It is useful in setting the sales price of your product relative to your profit goals and analyzing the effect of changes in business volume and costs.

However, a breakeven analysis is limited by the accuracy of the expense estimates you have.

# 18 Points to remember

## **Breakeven and you!**

1. Breakeven analysis is a tool that enables finance, purchasing, and marketing managers to make sound decisions regarding the products the firm offers for sale, the price charged, and the financial structure of production.

2. Effectiveness refers to the firm's ability to produce goods and services and can also be used as a description of the quality of those goods.

3. Efficiency refers to matching the available inputs with outputs to provide a service that consumers value.

4. Break even is the point at which all of the costs of running the business are covered by revenue earned.

5. Total revenue is simply the income produced from selling the firm's product. Total revenue will be affected both by the price charged and the number of units sold.

6. Costs of production can be broken into two components: costs that vary with production, such as materials, and those that do not vary, such as interest on the company's debt.

7. Fixed costs are constant regardless of the level of production.

8. Over time, as the company expands or contracts production, fixed costs will change.

9. Variable costs are those that change according to the level of production.

10. One of the strategic decisions a firm must make is the level of fixed costs at which they feel comfortable.

11. The difference between the sales price of each unit of product (P) and the variable cost to produce it (C), is called the contribution margin (CM). It is the amount of revenue that each sale contributes to offsetting fixed costs and, eventually, to creating a profit for the firm.

12. Breakeven analysis allows the firm to determine the optimal mix of fixed and variable costs.

13. Variable costs may change, depending on the volume of business. Firms may earn discounts from vendors or incur higher labor costs based on the need to pay overtime wages.

14. In order to utilize breakeven analysis, the firm needs to obtain realistic projections of demand for its product at specified price points.

15. In the simplest definition, profit is any amount left after total expenses are subtracted from total revenue.

16. A marketing concept that has significance for financing decisions is the product life cycle. A product in the introductory phase carries a higher level of risk than one in the maturity phase. As a result, firms should require higher rates of return on new product investments.

17. Short term losses can occur at well-established businesses for many reasons including poor planning, economic or competitive changes, or changes in public policy. Losses are a signal to the company that fundamental decisions need to be reassessed and cost structures reexamined

18. Continuing long-term losses can lead to bankruptcy.

## Q & A

**What is meant by a break-even analysis? How is it computed and why could it be important?**

Break-even describes the point at which the firm covers its costs but has made no profit. The first step is to compute the contribution margin: the difference between the sales price of the item and its variable costs. The fixed costs are divided by the contribution margin to obtain the number of units that must be sold in order to cover costs. If the break-even quantity is greater than the number of goods that can be sold, the firm should not enter that market (or sell that particular product).

**Define fixed costs and give two examples.**

Fixed costs are those that remain constant at every level of production. Property taxes are not dependent on the company's level of earnings; Inland Revenue sets them. The amount of interest owed to a bank is set by the terms of the loan, not by the company's performance.

### **What types of costs would be variable?**

Costs that would vary with production would include direct labor and the cost of raw materials used in the manufacturing process.

**The cost of advertising can be considered a fixed cost or a variable one. Why? Give examples of situations where advertising should be one or the other.**

Some companies that sell frequently used consumer product set their advertising budgets as a percent of previous months' sales. In that case it is a variable cost since it varies with sales. If the company is selling a product that is infrequently purchased, it might choose to set a base level of advertising and consider it a fixed cost. Assuming that advertising is a fixed cost insures the continuity of advertising even during a recession.

# Planning

## What is planning?

It encompasses defining the organization's objectives or goals, establishing an overall strategy, and developing a comprehensive hierarchy of plans to integrate and coordinate. It is concerned with ends (what is to be done) and with means (how it is to be done). Planning can be further defined in terms of whether it is informal or formal. In informal planning, very little, if anything, is written down. In formal planning, specific objectives are written down and made available to organization members.



## Why plan?

Managers should engage in planning for at least four reasons. Planning provides direction. It reduces the impact of change. Planning minimizes waste and redundancy. It sets the standards to facilitate control. Planning establishes coordinated effort.

Understanding where the organization is going and what must be contributed to reach the objectives, helps members to coordinate their activities and fosters teamwork.

### **A lack of planning equals...**

A lack of planning can cause various organizational members or their units to work against one another.



### **What planning can do for you:**

Planning reduces uncertainty. It clarifies the consequences of actions. It is precisely what is needed when managing in a messy environment. Planning also reduces overlapping and wasteful activities. Finally, planning establishes objectives or standards that facilitate control.

### **Does planning improve business performance?**

There are generally higher profits, higher return on assets with a formal planning process. The quality of the process and appropriate implementation of the plans probably contribute more to high performance than does the extent of planning. Finally, in those organizations in which formal planning did not lead to higher performance, the environment was typically the culprit. Government regulations and similar environmental constraints leave managers with fewer viable alternatives.

# Case Example

## **Miss Meena's Starch Production**

Miss Meena wants to start her own business. She thinks about processing potatoes into starch. In September she wants to buy an electric grinder at \$600; three basins at \$50 each; and three sieves at \$30 each. In October she plans to buy 500 lbs of potatoes at \$0.4 per lb. After processing she will sell the starch within the same month. In November and December she plans to do the same.

Since she only needs the grinder for one week a month, she agreed to rent her grinder to her neighbour, who will pay \$50 rent at the end of each month.

Miss Meena's fixed assets can be used for 10 years, except for the sieves, they need to be replaced every 3 years.

Miss Meena has only \$350 in savings of her own, and needs to borrow \$800 from the credit union to be able to realize her plan. She will borrow the money in September and plans to repay the full amount on January 1. The duration of the loan is 4 months. The credit union charges 2% interest per month.

To improve the quality of the starch Miss Meena will use a chemical. To process the 500 lbs of potatoes, 0.5 lb of the chemical will be enough. This chemical is only sold by the lb, at \$30 per lbs; so she has to buy 1 lb in September.

Miss Meena thinks she can produce a total of 150 lbs of starch out of 500 lbs of potatoes. She will sell this to the local macaroni factory.

The factory's price depends on the quality. Miss Meena thinks she can sell 80 lbs of the highest quality at a price of \$3/lbs; 40 lbs of medium quality at \$2/lbs and 30 lbs of low quality which sells at \$1/lbs. Each time she sells, a total of \$80 of other expenses, such as for transportation are made.

Miss Meena invited you to come and review her preliminary business plan with her. She wants to know whether this is a good business and wants your advice on how to proceed.

**Questions:**

**Task 1: Net Cash Income**

Compute the Net Cash Income for Miss Meena's enterprise.

List questions you have regarding:

verification of the above data

additional information you need to compute and assess more accurately.

**Task 2: Net Profit**

1. Compute the Net Profit of Miss Meena's enterprise.
2. Say in your own words what depreciation is. Why should we consider depreciation in assessing the viability of an enterprise?
3. What will happen to an enterprise if the Net Profit is negative?
4. What can the entrepreneur do with profits?
5. What is your conclusion on the profitability of Miss Meena's enterprise (very good, good, so so, low, too low) ?

**Task 3: Risk Analysis**

Compute Gross Profit and Net Profit for each of the following situations:

- a. Sales price for each quality of starch is \$0.3 /lbs lower
- b. Price for 1 lbs potatoes is \$0.1/lbs higher
- c. The amount of starch per quality category is different: 60 lbs of high, 50 lbs of medium and 40 lbs of low quality is produced (on average a lower quality).
- d. 500 lbs of potatoes produces not 150 lbs of starch, but only 120 lbs, of which 64 lbs high quality, 32 lbs medium quality, 24 lbs low quality (total amount lower than in original plan, but proportion per quality category the same).
- e. The price for the grinder is not \$600, but \$1000.

**Task 4: Breakeven Analysis**

Compute the breakeven point for Miss. Meena's business as she expects it to unfold. Miss Meena thinks she can sell 80 lbs of the highest quality at a price of \$3/lbs; 40 lbs of medium quality at \$2/lbs and 30 lbs of low quality which sells at \$1/lbs.

**Task 5: Cash Flow**

1. Fill in the attached Cash Record to project the cash situation of the business between September and January.
2. Can Miss Meena repay her loan with interest in January, as she has planned?
3. What decision should Miss Meena and the credit union make about her application?

# Worksheets:

## Task1:

### Total Income

	Per cycle	Sept.-Dec
<b>Sales:</b>		
high quality starch:		
80 lbs x \$3/lb		
medium quality starch:		
40 lbs x \$2/lbs		
low quality starch:		
30 lbs x \$1 /lbs		
Sub-total		
Rent from neighbour		
Total Income		

### Production Costs

	Per cycle	Sept.-Dec.
500 lbs potatoes x \$0.4 /lbs		
0.5 lbs chemical x \$30 /lbs		
<b>Total Production Costs</b>		

## Net Cash Income

	Per cycle	Sept.-Dec.
<b>Sales:</b>		
high quality starch:		
medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

## Task 2: Net Profit

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	Per month	Sept.-Dec.
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		
Grinder		
Basins		
Total		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
Fixed Assets of 3 life years:		
Sieves		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
<b>Total Depreciation</b>		
<b>Interest</b>		
\$800, 2 %/month		
<b>Net profit</b>		

### Task 3: Risk Analysis

#### Part A: Total Income

	Per cycle	Sept.-Dec
<b>Sales:</b>		
high quality starch:		
lbs x \$ /lb		
medium quality starch:		
lbs x \$ /lbs		
low quality starch:		
lbs x \$ /lbs		
Sub-total		
Rent from neighbour		
Total Income		

#### Production Costs

	Per cycle	Sept.-Dec.
500 lbs potatoes x \$ /lbs		
0.5 lbs chemical x \$30 /lbs		

<b>Total Production Costs</b>		
-------------------------------	--	--

**Net Cash Income**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
<b>Sales:</b>		
high quality starch:		
medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

## Net Profit

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	Per month	Sept.-Dec.
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		
Grinder		
Basins		
Total		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
Fixed Assets of 3 life years:		
Sieves		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
<b>Total Depreciation</b>		
<b>Interest</b>		
\$800, 2 %/month		
<b>Net profit</b>		

**Part B:****Total Income**

	Per cycle	Sept.-Dec
<b>Sales:</b>		
high quality starch:		
lbs x \$ /lb		
medium quality starch:		
lbs x \$ /lbs		
low quality starch:		
lbs x \$ /lbs		
Sub-total		
Rent from neighbour		
Total Income		

**Production Costs**

	Per cycle	Sept.-Dec.
500 lbs potatoes x \$ /lbs		
0.5 lbs chemical x \$30 /lbs		

<b>Total Production Costs</b>		
-------------------------------	--	--

### **Net Cash Income**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
<b>Sales:</b>		
high quality starch:		
medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

### **Net Profit**

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	<b>Per month</b>	<b>Sept.-Dec.</b>
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		

Grinder			
Basins			
Total			
Depreciation per year:			
Depreciation in 1 month:			
Depreciation in 4 months:			
Fixed Assets of 3 life years:			
Sieves			
Depreciation per year:			
Depreciation in 1 month:			
Depreciation in 4 months:			
<b>Total Depreciation</b>			
<b>Interest</b>			
\$800, 2 %/month			
<b>Net profit</b>			

**Part C:**

**Total Income**

	<b>Per cycle</b>	<b>Sept.-Dec</b>
<b>Sales:</b>		
high quality starch:		
lbs x \$ /lb		
medium quality starch:		
lbs x \$ /lbs		

low quality starch:		
lbs x \$ /lbs		
Sub-total		
Rent from neighbour		
Total Income		

### **Production Costs**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
500 lbs potatoes x \$ /lbs		
0.5 lbs chemical x \$30 /lbs		
<b>Total Production Costs</b>		

### **Net Cash Income**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
<b>Sales:</b>		
high quality starch:		
medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

## Net Profit

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	Per month	Sept.-Dec.
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		
Grinder		
Basins		
Total		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
Fixed Assets of 3 life years:		
Sieves		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
<b>Total Depreciation</b>		
<b>Interest</b>		
\$800, 2 %/month		
<b>Net profit</b>		

--	--	--

**Part D:**

**Total Income**

	Per cycle	Sept.-Dec
<b>Sales:</b>		
high quality starch:		
lbs x \$ /lb		
medium quality starch:		
lbs x \$ /lbs		
low quality starch:		
lbs x \$ /lbs		
Sub-total		
Rent from neighbour		
Total Income		

**Production Costs**

	Per cycle	Sept.-Dec.
500 lbs potatoes x \$ /lbs		
0.5 lbs chemical x \$30 /lbs		
<b>Total Production Costs</b>		

## Net Cash Income

	Per cycle	Sept.-Dec.
<b>Sales:</b>		
high quality starch:		
medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

## Net Profit

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	Per month	Sept.-Dec.
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		
Grinder		
Basins		
Total		
Depreciation per year:		
Depreciation in 1 month:		

Depreciation in 4 months:		
Fixed Assets of 3 life years:		
Sieves		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
<b>Total Depreciation</b>		
<b>Interest</b>		
\$800, 2 %/month		
<b>Net profit</b>		

**Part E:**

**Total Income**

	<b>Per cycle</b>	<b>Sept.-Dec</b>
<b>Sales:</b>		
high quality starch:		
lbs x \$     /lb		
medium quality starch:		

	lbs x \$ /lbs		
low quality starch:			
	lbs x \$ /lbs		
	Sub-total		
Rent from neighbour			
Total Income			

### **Production Costs**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
500 lbs potatoes x \$ /lbs		
0.5 lbs chemical x \$30 /lbs		
<b>Total Production Costs</b>		

### **Net Cash Income**

	<b>Per cycle</b>	<b>Sept.-Dec.</b>
<b>Sales:</b>		
high quality starch:		

medium quality starch:		
low quality starch:		
Other Income (Rent)		
<b>Total Income</b>		
<b>Production Costs:</b>		
<b>Gross Profit</b>		
Other expenses		
<b>Net Cash Income</b>		

### **Net Profit**

**Net Profit is Net Cash Income minus Depreciation minus Interest.**

	<b>Per month</b>	<b>Sept.-Dec.</b>
<b>Net Cash Income</b>		
Depreciation:		
Fixed Assets of 10 life years:		
Grinder		
Basins		
Total		

Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
Fixed Assets of 3 life years:		
Sieves		
Depreciation per year:		
Depreciation in 1 month:		
Depreciation in 4 months:		
<b>Total Depreciation</b>		
<b>Interest</b>		
\$800, 2 %/month		
<b>Net profit</b>		

**Risk Analysis**

	<b>PLAN</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
Total Income						
Production Costs						
Gross Income						
Net Profit						

## Task 4 Breakeven Point

The formula to calculate the breakeven annual sales is:

$$\text{Breakeven sales (\$)} = \frac{\text{Total annual fixed costs}}{1 - (\text{Annual variable costs} / \text{Total sales})}$$

		Breakeven	Sales Price 25% Higher	Unit Sales 25% Higher	Unit Sales 25% Lower	Variable Costs 25% Lower	Fixed Costs 25% Lower
1	Annual Sales						
2	Unit Sales (1/sale price)						
3	Variable Cost						
4	Contribution Margin (1-3)						
5	Fixed Cost						
6	Net income or profit (4-5)						
7	Net Income/ Sales (6/1)						

$$\text{Breakeven sales + profit (\$)} = \frac{\text{Total annual fixed costs} + \text{Profit objective}}{1 - (\text{Annual variable costs} / \text{Total sales})}$$

**Task 5 Cash Flow**

Month	Cash In		Cash Out		Balance
	Item	Amount	Item	Amount	
September					
October					
November					
December					

January					
February					

