FORE WORD AND A CKNO WLED GEMENTS

The materials included in "Financial Analysis and Planning for Directors" are intended for use in training programmes for Union Boards as well as for NDDB officers who serve on those boards.

The individual who has some background or experience in finance can use the major portion of the materials as a self-study programme. For those who are novices, the materials can probably best be used as part of a formal training activity.

The text and examples draw heavily on an excellent training programme, "Financial Fitness", designed by the US National Bank for Cooperatives, Wichita Region. The National Bank for Cooperatives - CoBank - is a cooperative financing institution owned by cooperatives throughout the United States. The Wichita Region includes cooperatives in the US states of Kansas, Oklahoma, Colorado and New Mexico.

INTRODUCTION

The National Dairy Development Board has developed this financial training programme for the directors and senior management of cooperative unions.

Today, as never before, dairy cooperatives face a challenge from multinationals and large business houses. The delicensing of the dairy industry requires that every cooperative union - large or small - strengthen its overall performance. In order to compete, we must pay our members the best possible price for their milk; we must continue to provide the high quality services and inputs dairy farmers need to increase their productivity; we must ensure that our milk and products are of the finest quality and are produced with the highest levels of efficiency and economy.

One critical area in which we must meet - and beat - the competition is in financial management. Union boards and senior management must work as a team to ensure that their cooperative is financially strong and sound.

In order to play your role as a director, you must be able to understand and interpret your union's financial results. Directors who can analyze their union's finances can help identify problems and identify future actions to help ensure long-term success. By mastering certain key financial measurements, you will be able to discover some of your union's strengths and weaknesses. Your participation in this programme shows that you recognize how important these skills are.

In order to make useful financial measurements, you will learn to make comparisons of several years' trends. This is far more useful than the analysis of a single year. While one year's performance may look satisfactory, a three-year comparison may indicate a downward trend. Or, while one year's indicators look poor, they may also indicate a steady improvement over a period of years.

You will work with your union's own results and will also be able to compare those with the results of other successful unions.

One word of caution: financial analysis is an important business tool; but, it has limitations. If your union has problems, a change in a key ratio may sound a warning: it will **not** isolate the cause of the problem. That requires the further effort and energy of the board and management to determine the cause, and to correct it.

PROGRAMME OBJECTIVES

By the end of this programme you will be able to:

1) Use a Balance Sheet and an Income Statement to obtain information required to calculate specific financial ratios.

2) Using information from a Balance Sheet and from an Income Statement, you will be able to calculate the following financial ratios:

Liquidity

Working Capital Analysis
Current Ratio Accounts
Receivable Inventory
Turnover

Solvency

Net Worth and Book Value per Share
Leverage Percentage
Equity to Assets Ratio
Fixed Investments Financed with Members' Equity Ratio

Profitability

Return on Assets
Productivity Ratio
Labour Expense to Gross Income
Fixed Expenses to Gross Income
Other Expenses to Gross Income
Total Expense to Gross Income

3) You will be able to compare your Union's ratios with industry norms and, where appropriate, suggest measures to improve your Union's performance.

4) You will demonstrate that you value the use of financial analysis by:

Continuing to develop your skills

Regularly using your skills to ensure that your analysis of Union financial information is focused and useful; and

Encouraging your Board colleagues to develop and use the same skills on a regular basis.

Basic Concepts

During the next few hours we will analyze your union through the use of three basic financial management concepts:

LIQUIDITY	Are enough funds available to meet current obligations?
SOLVENCY	Who owns the union?
PROFITABILITY	Are earnings sufficient to finance growth after servicing debt?

In making financial analyses, we will use two basic financial statements as the sources of data. These are the statements you should use when meeting your responsibilities as a director:

BALANCE SHEET	- Lists the unions assets, liabilities and net worth.
INCOME STATEMENT	Tabulates all revenue and expenditures for the period, producing a net savings or loss figure.

Using these statements and with a basic mastery of the concepts of liquidity, solvency and profitability, you will be able to determine where your union is strong, and where it needs improvement. Based on this analysis, you can begin to plan for a stronger financial future.

LIQUIDITY

As a director, you participate in decisions that directly affect the financial health of your union. Understanding liquidity will help you to contribute to better decisions.

Liquidity analysis is a measurement of your union's continuing ability to pay its bills or, to use financial language, "to meet current obligations". Liquidity refers to the period of time required to convert an asset - something owned by the union - into cash.

Current assets are those assets which are normally supposed to be converted into cash with a 12 month period. They include such assets as: accounts receivable, inventory and cash. These are also called "liquid assets".

Current liabilities are those liabilities that would normally be met within a 12 month period. They include accounts payable and short-term of seasonal loans.

Current liabilities are claims against current assets. These claims affect your union's ability to meet its future financial obligations. Therefore, the relationship between current assets and current liabilities is an important part of a union's liquidity analysis.

Working Capital

A Working Capital Analysis is the most common way of measuring the balance between current assets and current liabilities.

Working capital is the excess (in Rupees) of current assets over current liabilities. For example, if your union has Rs. 10 lakh in current assets and Rs. 7.5 lakh in current liabilities, your working capital is Rs. 2.5 lakh. This is the business capital that your union has available to finance its operations.

When a union does not have adequate working capital, it becomes necessary to use an outside financing source to provide the capital necessary to finance its operation. When a union uses outside finance, this increases expenses because of the cost of interest. And, if the union's finances are not sound, it is also possible that lenders will not be willing to provide the additional capital required to continue and expand the union's business. All too often, it is the milk producers who meet the deficit in working capital - they do so by "lending" the union their payments for milk until such time as the union is able to meet its obligations.

Now, let's calculate the working capital for your union. Remember, working capital is calculated by the following formula:

Working Capital = Current Assets - Current Liabilities

Let's look at an example:

Current Assets Rs. 7,513,800 Current

Liabilities Rs. 4,599,000 Working

Capital Rs. 2,914,800

Your Union's Working Capital Ratio

	19	19	19
Current Assets	Rs.	Rs.	Rs.
Current Liabilities	Rs.	Rs.	Rs.
Working Capital	Rs.	Rs.	Rs.

Think for a moment, then write down what you think your calculation of working capital says about your union. Then go on to read the next section.

Comments:

Working Capital Needs

Maintaining adequate working capital is a priority financial goal for every milk producers' cooperative union. Working capital is needed to ensure that bills can be paid and that there is an adequate "buffer" so that, if need be, the union is eligible to borrow short-term funds.

Some unions need working capital because the seasonal nature of the dairy business means that it is often difficult to sell inventories and collect receivables as quickly as necessary to ensure regular payment to producers and to meet bills from creditors.

Sometimes union directors can forget that inventories and receivables must be financed. If the union makes products, the requirement to finance inventories can be significant. Even financing of inventories of feed and veterinary medicines can be substantial. In cases where the union supplies milk or products to the federation, there may be delays in payment of accounts receivable. These, too, must be financed.

It is not uncommon - though it is certainly undesirable -- for inventory to be on hand for up to 180 days. If the union sells on credit, there is also the need to finance that inventory for an additional period until the buyer settles the amount.

On the other hand, producer payments to member cooperatives should be made two to three times per month. Working capital is used to finance the inventory during the period in between: say, for example, the 173 days between the 7 `h day,

when the milk is paid for, and the 180th day when a product has been sold and the payment collected.

Balance Sheet

The Balance Sheet is one of the key financial statements for any business. The Balance Sheet does what the name implies: it shows the balance between what the union owns - its "assets", and what it owes - its liabilities and member equity. Below is a very simple balance sheet:

CURRENT LIABILITIES 45,98,97,619 39.45%	**CURRENT ASSETS** 75,13,75,598 64.46%
LONG-TERM LIABILITIES 68,11,93,522 58.44%	**INVESTMENTS** 1,43,92,600 1.23%
	NET FIXED ASSETS 29,99,00,605 25.73%
MEMBER EQUITY 2,45,77,662 2.11%	

Working Capital Level

Your union's working capital will increase - or decrease - depending on your financial planning and policy decisions. Each month when you receive your union's trial balance, you can chart the changes in working capital by subtracting current liabilities from current assets.

Insufficient working capital can be a critical weak spot in a union's financial structure. Each union should have a well-conceived plan to preserve and build working capital. When we reach the Action Plan section of this exercise, you can practice determining your union's working capital needs for the coming year.

ACTIONS THAT INCREASE WORKING CAPITAL 1.
Sell Equity to Members Increase
Equity Increase Cash

2. Borrow Term Debt Increase Term Debt
Increase Cash

3. Sell Fixed Assets Decrease Fixed Assets

			Increase Cash
4.		Redeem Federation Equity	Decrease Investments Increase Cash
		ACTIONS THAT DECREASE WORKING CAPITAL	
	I	Retire/redeem Equity	Decrease Equity Decrease Cash
2.		Retire term debt	Decrease Term Debt Decrease Cash
3.		Buy Fixed Assets	Increase Fixed Assets Decrease Cash
4.		Purchase Federation Equity	Increase Investments Decrease Cash

Current Ratio

Ratio analysis provides another way of measuring working capital trends and adequacy. The "Current Ratio" converts the relationship between current assets and current liabilities into a single, easily understood ratio. The formula used for the current ratio is:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The general rule is to try to maintain between Rs. 1.50 and Rs. 2.00 of current assets for every Rs. 1.00 of current liability. This means a current ratio of between 1.5:1 and 2.0:1. The actual target for your union will depend on your asset mix. If your union has no product inventory or a small product inventory and easily collectible accounts receivable, you can operate safely with a lower current ratio than a union which has a greater proportion of its current assets tied up in inventories and which has substantial credit sales.

First look at the illustrative calculation of the current ratio below:

Current Assets Rs. 7,513,800 Current

Liabilities Rs. 4,599,000

Current Ratio 1.63:1

Now try to calculate your Union's Current Ratio:

Your Union's Current Ratio

	19	19	19
Current Assets	Rs.	Rs.	Rs.
Current Liabilities	Rs.	Rs.	Rs.
Current Ratio	Rs.	Rs.	Rs.

Please pause and reflect for a moment about the level of your Union's current ratio, considering the proportion of your current assets that are in inventories and accounts receivable. Then write a brief analysis of your Union's situation and whether there is any need to introduce changes.

Comments:

Accounts Receivable and Liquidity

Liquidity is a term that describes how quickly an asset can be converted into cash. "Cash on hand" is absolutely liquid; cash in the bank is highly liquid - more liquid in the case of current deposits, and less so in the case of fixed deposits; land, buildings and equipment are not at all liquid.

Accounts receivable - money that is owed to the union for goods and services sold to others - are analyzed as a partial measure of a union's liquidity.

A standard measure of the liquidity of your receivables is done by calculating " Days' Sales in Accounts Receivable". This measures how quickly your union collects in relation to any credit terms that are offered. This measure tells you the actual liquidity of the asset.

The measurement of "Days Sales in Accounts Receivable": is a way to judge your union's credit policies and their implementation.

The "Days Sales in Accounts Receivable" ratio is computed by multiplying your union's average accounts receivable by 365 days and then dividing that amount by the annual sales.

Days' Sales in Accounts Receivable = **Trade Accounts Receivable x 365 days**

Annual Sales

If your union sells its product on credit - whether to your federation or to others - you should have a credit policy. The credit policy will state for how many days credit may be extended. Normally terms should be for 30 days or less. The **Days' Sales in Accounts Receivable** ratio will tell you whether your policy is being followed.

Below you will find a table which shows the average accounts receivable multiplied by 365 days as well as the annual sales. You should calculate the ratio and then indicate for which years the Union's Days' Sales in Accounts Receivable was consistent with a credit policy that limits credit to 30 days.

Pasupati Union

	1998	1999	2000
Accounts Receivable x 365 days	Rs. 2,32,179	Rs. 3,41,216	Rs. 2,40,656
Annual Sales	Rs. 29,92,994	Rs. 38,61,899	Rs. 38,57,419
Ratio	days	days	days

Your answers should have been:

1998 28.31 days

1999 33.19 days

2000 22.77 days

This means that the union's Days' Sales in Accounts Receivable was consistent with a 30 day credit policy in 1988 and 1990, but not in 1989 when the actual ratio exceeded the policy by 3.19 days.

Now, working from your Union's balance sheet, calculate your Union's Days' Sales in Accounts Receivable ratio:

	19	19	19
Accounts Receivable x 365 days	Rs._____	Rs._____	Rs.
Annual Sales	Rs._____	Rs._____	Rs.
Ratio	_____days	_____days	_____days

Now, think for a moment and note any thoughts that come to mind about whether your union's ratio is consistent with a sound credit policy:

Comments:

Inventory and Liquidity

How big an inventory should your union have? That depends on a number of factors. If you are producing products, then it is likely that your inventory will be larger during and right after the flush season and that it will grow smaller during the months that follow. This type of inventory position is part of the dairy business.

How can you measure the adequacy and balance of your union's inventory? One way is to compare it with the year's sales to determine the inventory turnover. This measures the number of times your inventory turns into sales during a given period. For example, if your union's product sales for the year are Rs. 110,00,000 and the inventory show on your Balance Sheet is Rs. 27,00,000, then your inventory turnover would be:

Rs. 110,00,000 --
----------Rs.
27,00,00

This works out to an inventory turnover of about 4.1. This figure is for a general inventory. You can also calculate the inventory turnover for specific products. In this way it is possible to identify products that may be moving rapidly or slowly and to make adjustments in your product mix to increase the turnover ratio.

A Final Note on Liquidity

Working capital will increase, or decrease, depending on the wisdom of your ongoing decisions. Growing profits are one of the best ways in which to increase working capital; losses are one of the surest ways to decrease working capital.

One of the most effective ways to reduce the amount of working capital that your union needs is to make your current assets turn over faster. The faster your sell your inventory and the sooner your collect accounts receivable, the less working capital you need. This closes the gap between your need for capital and the amount available without the need to borrow. The cost of borrowing is one of the major costs for most unions. Each Rupee you *don't* borrow saves you between 10 and 18 paise during the course of the year. That means, if you don't borrow Rs. 10 lakh, you save between 1 and 1.8 lakh.

If your union doesn't generate enough working capital, you will face difficulties buying fixed assets and meeting your debt obligations. Remember, your primary source of working capital is your union's net savings. If you can take decisions that lead to net savings, then you will have built the foundation for meeting your liquidity needs and building a strong working capital base.

SOLVENCY

Solvency analysis measures the long-term financial strength of your union. It examines the balance between members' equity - or net worth - and the other capital employed in carrying out the union's business.

Equity capital, whether contributed directly by members or through operational earnings, is relied on to absorb possible losses, decreases in asset values or poor estimates of funds flow requirements. Solvency analysis indicates whether your union's equity "buffer" is adequate.

Solvency analysis also provides a measure of control. As creditors - whether government, banks or NDDB - supply proportionately more capital, they assume added risk. As this risk level increases, these lenders are likely to insist on more controls, limiting the financial independence of the union. If your union owes more than it owns, then your creditors are your "partners" in running the business. This is a situation you should try to avoid.

Liquidity analysis focused on the current sections of your balance sheet., Solvency analysis, which measures long-term financial health, focuses on the non-current or permanent sections of your balance sheet.

As a board director, your interest lies in maintaining a sound debt to equity mix. This requires an appreciation of the differences between these two sources of capital.

Equity and term debt both provide long-term financing for long-term assets. However, the differences between equity and term debt are critically important and must be considered in developing a sound, long-term financial plan.

Equity is the "buffer" or cushion necessary for the union to weather financial storms. It provides a margin of safety. Similarly, your ability to attract additional long-term financing will depend on adequate growth of your own equity.

Differences between Members' Equity and Term Debt

	Members' Equity	Term Debt
Finances	Term Assets	Term Assets
Due Date	Non-Specific	Specific
Cost	Opportunity	Interest
Sources	Owners, Operations	Lenders
Form	Stock Retained Earnings Allocated Earnings	Term Loans Debt Certificate Debenture Bonds
Increased by	Sales to Members Equity Patronage Bonus Increased Membership Surplus/Net Savings	New Loans
Decreased by	Losses Cash Patronage Bonus Equity Redemption Dividends	Loan Repayments Bond Retirement

It should be evident that the common practices of paying price differentials and patronage bonuses in cash, and paying high dividends, are both ways in which member equity is decreased.

Measures of Solvency

There are several ratios and percentages used to measure solvency. In these exercises, you will master four of the most commonly used ratios:

Net Worth and Book Value per Share
Leverage Percentage
Equity to Assets Ratio
Fixed Investments Financed with Members' Equity

Net Worth

The first of the solvency measures we will use is **Net Worth,** and the derivative measure of **Book Value per Share.**

Net Worth is that part of the union that belongs to its members. It is the Total Assets of the union, less its current liabilities and long-term debt. Another term for Net Worth is "Members' Equity".

Here is a simple example of how to compute the Net Worth of a union:

Total Assets	Rs. 11,512,800
Less Current Liabilities	Rs. 4,599,000
Less Long-Term Debt	Rs. 2,438,000
Net Worth	Rs. 4,475,800

Now, using your union's Balance Sheet, computer your union's Net Worth:

	19	19	19
Total Assets	**Rs.**	Rs.	Rs.
Less Current Liabilities	Rs.	**Rs.**	**Rs.**
Less Long-Term Debt	**Rs.**	**Rs.**	**Rs.**
Net Worth	Rs.	**Rs.**	Rs.

Briefly review your union's Net Worth. Is it a positive or negative figure? What steps do you feel you union can and should take to improve its Net Worth?

Comments:

Book Value per Share

Book Value per Share is a measure of solvency based on Net Worth. Quite simply, it is the union's Net Worth divided by the number of equity shares outstanding. For example, if the union's Net Worth is **Rs.** 4,476 lakh, and the number of shares outstanding is Rs. 205,000, then the **Book Value per Share** is Rs. 2,186. If the **Book Value per Share** is higher than the face value per share, then it is an indication of the union's financial strength. However, if the **Book Value per Share** is less than the face value, that is a sign of weakness: it means that if the union were to be dissolved, then in order to satisfy the outstanding debt, each owner would have to contribute the difference between the book value and the face value.

Please take a moment and try to compute the Book Value per Share for the following example:

Union's Net Worth	Rs. 4,475,800
Number of Shares Outstanding	Rs. 204,745
Book Value per Share	Rs. _____
Face Value per Share	Rs. 100.00
Book Value as % Face Value	_____

Your answer should have been:

Book Value per Share = Rs. 2,186

Book Value as % of Face Value = 2,186%

Now, using your Balance Sheet and the Net Worth you calculated in the previous exercise on Net Worth, calculate your Union's Book Value per Share.

	19	19	19
Union's Net Worth	Rs._____	Rs._____	Rs._____ Number of Shares Outstanding
Book Value per Share	Rs._____	Rs._____	Rs._____
Face Value per Share	Rs._____	Rs._____	Rs._____ Book Value as % Face Value

Think for a moment about what might happen if your union were dissolved tomorrow. Does your Net Worth indicate that the union could meet its obligations and then distribute the remaining assets to its owners? Or, does your Net Worth and Book Value per Share suggest that in order to satisfy your union's obligations, the owners would have to subscribe additional capital? Please use the space below to provide an analysis of your union's position and the steps you feel should be taken to improve it.

Comments:

Leverage Percentage

The Leverage Percentage is a means of comparing your members' investment (equity) with your creditors' investments (term debt). It is calculated as follows:

$$\textbf{Leverage Percentage} = \frac{\textbf{Term Debt}}{\textbf{Members' Equity}}$$

The Leverage Percentage is an indicator of your union's ability to undertake increased term debt borrowings and compares how much of your members' equity is dedicated to this type of long-term borrowing. Your bankers use the percentage as a measure - among others - of your repayment ability.

An accepted standard is to maintain less than a 50 percent leverage relationship. In other words, for every Rs. 1.00 of equity, you should have no more than Rs. 0.50 of long-term debt.

As the leverage percentage rises toward 100 percent, a critical situation arises. Beyond this point, y our creditors are supplying the majority of the union's long-term capital. They may well impose limits on your business and your union's financial autonomy may be at stake.

In the exercise below, please calculate the Leverage Percentage for the Union whose Term Debt and Members' Equity is given:

Term Debt Rs. 2,438,000 Members' Equity Rs. 4,475,800 Leverage Percentage

Your answer should have been that the Leverage Percentage is 54.5%.

Now, using your balance sheet and earlier calculations, computer your union's Leverage Percentage:

	19	19	19
Term Debt	Rs._____	Rs._____	Rs.
Members' Equity	Rs._____	Rs._____	Rs.
Leverage Percentage			

Reflect for a moment on your union's Leverage Percentage and on the trend it has followed. Then jot down your thought's about the ratio and, if you feel there is a problem, steps that might be taken to correct it.

Comments:

Equity to Assets Ratio

The **Equity to Assets Ratio** indicates the percentage of total assets that are financed by members' equity. This provides an indicator of how much of the business is owned by the members. The ratio can be affected by losses or by reductions - or increases - in equity.

The standard for the **Equity to Assets Ratio** is normally in the range of 50 to 60 percent. If the percentage is significantly higher, it may indicate the need to redeem member equity. A low percentage would suggest too great a reliance on external borrowings; a limited effort to raise the level of member ownership; or a period of sustained operating losses that has eroded the member equity base.

Now, take a moment and compute the **Equity to Assets Ratio** for the sample union whose data is provided below:

Members' Equity Rs. 4,475,800 Total Assets

Rs. 11,512,800 **Equity to Assets Ratio**

Your answer should have been 38.88%.

Now, using your Balance Sheet, please calculate the Equity to Assets Ratio for your Union.

	19	19	19
Members' Equity	Rs._____	Rs.	Rs.
Total Assets	Rs._____	Rs.	Rs._____

Equity to Assets Ratio

How does your Union's ratio compare with the 50 to 60 percent standard? Does the ratio suggest that you should redeem equity, or that your assets have been financed primarily by others? Is the trend improving, or getting worse? What are the reasons? Take a moment to think about these questions and note your comments below:

Comments:

Fixed Investments Financed with Members' Equity Ratio

The third solvency measure we will use is the percentage of fixed investments (long-term assets) financed with members' equity. In calculating this ratio, current assets are subtracted from total assets, then members' equity is compared with the result.

The Fixed Investments Financed with Members' Equity Ratio shows how much of your union's fixed investments are owned by the union. When a lender reviews your union's balance sheet, this is a very important factor in the decision whether or not to lend: if the union does not own its long-term assets, then it may be very difficult for the lender to recover his loan in the event the union fails. This is because your union's long-term assets normally represent the collateral for the loan. An acceptable goal is to maintain over 100 percent member ownership of fixed investments.

Please not calculate the **Fixed Investments Financed with Members' Equity Ratio** for the union whose data are furnished below:

Members' Equity Rs. 4,475,800 Total Assets less Current Assets Rs. 3,999,000 **Ratio**

You should have concluded that the Fixed Investments Financed with Members' Equity Ratio was 111.92%.

Now, using the data from your Union, try calculating the Fixed Investments Financed With Members' Equity Ratio:

	19	19	19
Members' Equity	Rs._____	Rs._____	Rs.
Total Assets less Current Assets	Rs._____	Rs._____	Rs._____

FIFME Ratio

Now, take a look at the ratios for the three years. Is your Union close to the standard of 100 percent or more? If not, is it so low as to place in question who actually owns your union's assets? How would a bank view your ratio? Is the position improving, or is it getting worse?

Comments:

PROFITABILITY

Achieving and sustaining an adequate surplus is a priority that requires the full attention of a union board and senior management. Any business must earn a profit if it is to survive over an extended period of time. Cooperatives are no exception to this rule.

Achieving a surplus is not a simple task. In today's increasingly competitive environment, your cooperative must market creatively in order to sell the maximum quantity of fluid milk as close to y our dairy plant as possible. You must ensure that there is effective management, accountable for adequate margins and that there is strict control over expenditures. With the passage of time, your union will need additional finances to service your debt while preparing to replace old equipment and invest in new.

John D. Rockefeller, the famous American billionaire, was once asked the secret of his success. He replied:

"BUY LOW,

SELL HIGH,

DO IT CHEAP."

You know from your own experience that it is not quite that simple. However, there are some basic ways to assess your union's profit performance.

The basic information on profitability is obtained from your **Income and Expense Statement.** This statement shows how much your union made, or lost, during the year. While the Balance Sheet shows the union's fundamental soundness on a given date, the **Income and Expense Statement** shows the record of operating activities during the course of the year. An historical record covering several years can be an even more important document.

In examining profitability, you will learn to compute:

RETURN ON ASSETS

PRODUCTIVITY RATIO

LABOUR EXPENSE TO GROSS INCOME

FIXED EXPENSES TO GROSS INCOME

OTHER EXPENSES TO GROSS INCOME

TOTAL EXPENSE TO GROSS INCOME

When you have mastered these, you will be in a position to help your fellow directors focus on areas where your union's financial performance can be improved.

Return on Assets

The first measure of profitability is **Return on Assets.** Total assets represent your union's total investment applied to earning a profit. Thus it is the basic single measure of profit performance.

All elements of a union's business should contribute, directly or indirectly, to the overall profitability of your cooperative. If your management is investing in unprofitable areas, the reasons for the investment should be closely examined.

It is important to remember, however, that investments that help cooperatives and their members become more productive are investments in making a profit. Much of your union's profitability is linked to your members' productivity: as a simple example, it costs the same amount to collect 40 litres of milk from a DCS as it does to collect 400 litres. The difference is in the cost per litre. The more productive the DCS, the lower the cost per litre - and the greater the surplus. Your member cooperatives' productivity depends on their members' productivity: the more milk per animal, the stronger the entire dairy cooperative structure becomes.

Now let's practice calculating the first measure of profitability, **Return on Assets.** This is calculated using the following formula:

$$\textbf{Return on Assets} = \frac{\textbf{Net Profit}}{\textbf{Total Assets}}$$

Before trying to calculate your own Union's Return on Assets, please first try the following example:

Net Profit Rs. 41.0 Total Assets Rs.

11,512.8 **Return on Assets**

You should have written 0.36%.

Now, try calculating your Union's **Return on Assets.** Remember that the Net Profit is found in your Income and Expense Statement while the Total Assets are found in the Balance Sheet.

	19	19	19
Net Profit	Rs._____	Rs.	Rs.
Total Assets	Rs._____	Rs._____	Rs._____
Return on Assets			

Take a close look at your union's return. Is it positive? If so, how does it compare with some of your competitors among investor owned firms. In a recent year, Milkfood's Return on Assets was 2.2%; Nestle's was 9.3%; Glaxo was 4.7%; and

SmithKline Beecham was 15.7%. If your return on assets was lower, try to identify the reasons why. Should your union try to improve its ratio? If so, what can and should it do to achieve this goal?

Comments:

What should be a union's return on assets? One way of thinking about this question is to estimate how much your union will need to finance its long-term growth goals, and how much of this growth should be financed with your own funds. You will then be able to estimate the return on assets necessary to produce that level of savings. A simpler approach would be to ask whether your Return on Assets would match the yield earned if your members' equity were invested in a fixed deposit.

Income Statement

Your union's income statement is made up of five different items, each of which contribute to the surplus. Each of these will be discussed individually. However, it is important to remember that overall profitability requires balancing all of these factors in a combined strategy.

The five key factors are:

Volume

Margin

Service Income

Patronage Income

Expenses

Volume

Before you decide how, or how much to sell, you must decide what to sell. A union has two or more types of customers. First, you have your member cooperatives and their owners. They expect certain products and services to be available because these are important to their productivity. Your other customers are consumers. Sometimes you sell directly, and sometimes you sell through your federation. In

either case, your products need to meet the needs of consumers which means they must compete in terms of quality, availability and price.

Unfortunately, some unions sell items, or sell at prices, that are difficult to justify. The Union's product line should be carefully developed to ensure profitability and long-term growth.

One important role of a union director is to participate in development of a long-term product strategy - products and services for members as well as products for the consumer. Periodically your board should evaluate its product lines, eliminating those items that are unsuccessful and adding those that have high potential or which are needed by members.

When you examine your product line it is important to look not only at rupee sales volume, but also unit volumes. Without this information it is difficult to measure results or to justify investments in inventory. For example, a temporary hike in prices may result in a sharp increase in rupee volumes that disguises a long-term downward trend in unit volumes. Or, increasing competition and tight margins may hide the fact that a product's unit sales volume is showing very satisfactory growth over time.

Margins

In basic terms, margins are the difference between an item's cost and its selling price. Margins differ significantly from item to item. What is important is to have a product line that generates a total gross margin that is consistent with your surplus requirements.

As a director, you should ensure that your union maintains records that enable your board to conduct a timely margin analysis, as needed. It is only when low margins are recognized as a problem that a board and senior management can conduct the type of thorough analysis needed to identify the causes and make the necessary adjustments.

As should be obvious, internal controls are in important factor in ensuring adequate margins. Among the types of problems that can be minimized through internal controls are inventory "shrinkage"; inventory "sold but not billed"; inadequate pricing controls; etc.

If your union has a competent chartered accounting firm serving as its auditor, you can certainly request that firm to examine and make recommendations on margins as part of their audit.

Service Income

Service income is earned from veterinary services, artificial insemination, education programmes, etc. If you examine your union's expenditures, you may well find substantial outlays in these areas as well as a trend showing significant increases over time. Service is a common cooperative standard, yet all too often there are no fees, or the fees do not cover the cost of the service.

Some unions determine that it is in the longer term interest to offer a service at, or below, cost. These services often are investments in the union's growth. However, it is a mistake to simply continue losing services out of habit. If it is a service that does provide a tangible service to the DCS, or to its members, then if it is

not being offered at a break-even or higher price, your union board may wish to consider changing the fee structure, eliminating the service, offering it only at times or under conditions when it is profitable, or covering the cost through an additional margin.

The impact of every service on union profitability should be considered. Your board should require management to periodically report on each service, its costs, margins and bottom line. You should examine whether similar services are being provided by competitors or by similar unions, and what they charge. You should examine whether the service is being used by a majority of members, or just a few - it is difficult to justify a service where all the members subsidies a benefit to a few. Last, but not least, the long-term return to the union should be considered: is the service a real investment, or is it just a cost.

Patronage Income

Your union is an owner of the federation. Just as a cooperative should pay a patronage-based bonus to its owners, and just as your union should pay a patronage bonus to the Dairy Cooperative Societies that own it, your federation should pay a patronage bonus to your union and to other member unions. However, such patronage income should be "icing on the cake", not the difference between your union's profit and loss. It is essential to rely, first and foremost, on the business results of the union.

If your federation is well-managed and has a wise board of directors, at least a portion of your patronage payments will be in the form of equity. This is union income, but it is not available for purchase of fixed assets, for paying cash dividends, etc.

Expenses

Your union board directly controls some expenses; some are controlled by management; and some are the result of factors beyond anyone's control.

The best way to manage your union's expenses is through a budget. This sets a standard against which to measure your progress and lets you and your fellow directors ask why an expense has been higher, or lower, than expected. Budgets should be working documents - they should not be a piece of paper that is filed and forgotten.

Some unions have grown out of an appropriation culture. Funds are appropriated and spent. A cooperative must operate differently. This means that employees must be educated, motivated and rewarded for being cost conscious - but not for being penny wise and pound foolish. You should insist that your chief executive and other senior management lead by example. And, as a board director, you should always be a model by limited your own expenses to the bare minimum.

Expense Measures

There are several ways in which to measure expenses. During this exercise, you will learn to calculate some of these. They include:

Productivity Ratio

Labour Expense to Gross Income

Fixed Expenses to Gross Income

Other Expenses to Gross Income

Total Expense to Gross Income

These measures will help you to assess your union's performance and to identify areas where improvements will make a difference.

Productivity Ratio

The **Productivity Ratio** compares your total gross income to the amount, quality and efficiency of the resources which helped to produce that income. These resources - manpower, money, plant and equipment - are common to almost every enterprise.

As a rough benchmark, we can say that a union is making efficient use of its resources when it realizes Rs. 2.00 of gross income for every Rs. 1.00 of resource costs.

The formula for calculating the **Productivity Ratio** is:

Productivity Ratio $= \dfrac{\textbf{Total Gross Income}}{\textbf{Labour + Interest + Depreciation + Rent and Lease}}$

The following example illustrates the calculation of the Productivity Ratio for a sample union:

Gross Income Rs. 633,300 Labour + Interest + Depreciation + Rent +

Lease Rs. 1,544,500 **Productivity Ratio** 0.41:1

Now, using your Union's financial statements, try calculating your own productivity ratio.

	19	19	19
Gross Income	Rs._____	Rs.	Rs.
Labour + Interest + Depreciation	Rs._____	Rs.	Rs. + Rent + Lease
Productivity Ratio	_____:1	:1	_____:1

Now, compare your ratio with the standard. Did you realize a gross income of Rs. 2.00 for every Rs. 1.00 of resources applied? Was your Productivity Ratio higher, or lower? Is the trend improving, or deteriorating. What can your union do to improve the position?

Comment:

The higher the ratio, the more gross income your investment in labour, financial costs and rent is producing. If your Productivity Ratio is less than 2:1, you should be concerned. Also, if the trend of your Productivity Ratio is declining - even if it is better than 2:1, you should also be concerned and should seek to discover the reasons.

If you are not satisfied with your Productivity Ratio, there are several additional ratios that may help you to pinpoint the areas where the problems lie.

Labour Expense to Gross Income Ratio

The first ratio compares labour expenses to your gross income and provides a measure of the efficiency of your investment in labour. The ratio tells you how many Rupees of gross income are produced for every Rupee spent on labour.

The Rupee investment in labour will vary somewhat with your union's mix of income sources: for example, the ratio would be different for a union that concentrates on products as compared with one that deals only with fluid milk. If your unions has a mix of both types of business, then you might wish to calculate a Labour Expense to Gross Income ratio for each part of the business. This means that you would have to use a "Profit Centre" approach and clearly identify the income and labour expenditures allocable to each centre.

For the purpose of this exercise it will suffice to compute the overall labour expense to total gross income. The formula is:

Labour Expense to Gross Income = **Labour Expense / Gross Income**

Now, take a look at the following computation for a sample union:

Labour Expense	Rs. 952,200
Gross Income	Rs. 633,300
Labour to Gross Income Ratio	150.36%

Now that you're confident of how to do it, extract the labour expenses from your union's Income and Expense Statement and then calculate the Labour Expense to Gross Income Ratio:

	19	19	19
Labour Expense	Rs._____	Rs._____	Rs.
Gross Income	Rs._____	Rs._____	Rs._____
Labour to Gross Income Ratio			

Examine your percentage. Does it appear that labour costs are a significant element in your Productivity Ratio? Many unions have adopted the practice of Government depaitinents, employing far more people than they need to do the job effectively. Some union directors have succumbed to the temptation of using their positions to create employment that is not justified by the union's real requirements. Whether intentional, or simply an accident, high labour costs relative to gross income rob the owners of your union: the dairy farmers you exist to serve. Think for a moment: is your Labour Expense to Gross Income Ratio too high? If it is, what can your union do to correct that problem?

Comment:

There are two ways in which to calculate "Labour Expense". The first is consistent with normal accounting practices: you would include only wages and related costs for labour and labour contracts; the second would be more consistent with accounting in other countries and would include all salaries, wages and employee benefits, whether for labour or "management".

Fixed Expenses to Gross Income

Labour, of course, is not the only cost that can contribute to a low Productivity Ratio. There are other expenses that should also be carefully examined. A comparison of your fixed expenses to gross income provides an indication as to whether your union's investment in facilities is too high relative to your business turnover and also whether the union is carrying too great a debt burden. When calculating Fixed Expenses, you should include depreciation, interest expense, any property taxes and general (but not employee) insurance. It is the normal practice to also include the costs of permanent employees which would include salaries, DA and ADA, employee insurance, Provident Fund and similar expenditures. Unless you have chosen to include these in Labour Expenses, they should also be included in the calculation of fixed expenses.

A rough standard for a Fixed Expenses to Gross Income Ratio would be in the 35 to 50 percent range. Higher than that suggests that your union's business turnover is not high enough to meet your debt and need to invest in future growth.

The following is an example of calculation of the Fixed Expenses to Gross Income Ratio for a union:

Fixed Expense Rs. 634.3 Gross Income Rs. 633.3 **Fixed**

Expense to Gross Income Ratio 100%

Now using your financial statements, calculate your Union's Fixed Expense to Gross Income Ratio:

	19	19	19
Fixed Expense	**Rs._____**	**Rs.**	**Rs.**
Gross Income	**Rs._____**	**Rs.**	**Rs.____ Fixed**
Expense to Gross Income Ratio			

What is your ratio? Is it higher, or lower, than the sample union? Is the trend positive - toward a reduced percentage? Or negative - toward a higher percentage? What steps could your union take in order to ensure that your Fixed Expenses to Gross Income Ratio move toward the 35 to 50 percent range?

Comment:

Other Expenses to Gross Income

Variable expenses are also important to your union's financial performance. These include all expenses not previously included in your labour and fixed cost computations. The formula is:

$$\textbf{Other Expense to Gross Income} = \frac{\textbf{Other Expense}'}{\textbf{Gross Income}}$$

You can easily tabulate your "Other Expenses" by subtracting Labour and Fixed Cost expenses from the total Expenses on your union's Income and Expense Statement. Then you can calculate your Other Expenses to Gross Income Ratio. But first, review

the following example.

Other Expense Rs. 5,864.2 Gross Income Rs. 633.3 **Other**

Expense to Gross Income Ratio 925.9%

This suggests that Other Expenses are far higher than they should be. Now, take a look at your Union's Other Expense to Gross Income Ratio:

	19	19	19
Other Expense	Rs._____	**Rs.**	**Rs.**
Gross Income	Rs._____	**Rs.**	**Rs.**____ **Other**
Expense to Gross Income Ratio			

How does your union's Other Expenses to Gross Income Ratio look? Is it too high? Is the trend moving in the right direction? If not, what are the steps your union can take to bring the ratio closer to an acceptable level?

Comment:

There are two ways in which to calculate "Labour Expense". The first is consistent with normal accounting practices: you would include only wages and related costs for labour and labour contracts; the second would be more consistent with accounting in other countries and would include all salaries, wages and employee benefits, whether for labour or "management".

Total Expenses to Gross Income Percentage

The bottom line for any cooperative is that total expenses must be less than 100 percent of gross income. That is necessary if you are to break even, or earn a surplus. Normally, you should only consider that portion of gross income that is generated directly by union operations. This means you would exclude any patronage or related payments by your federation. The standards a union should attempt to achieve is a total expense equivalent to between 85 and 90 percent of your gross income. The difference between that standards and 100 percent represents your surplus.

Now, briefly look at the following illustration of calculating a union's Total Expense to Gross Income ratio:

Total Expense Rs. 592,300 Gross Income Rs. 633,300 **Total**

Expense to Gross Income Ratio 93.52%

Now that you see how it is done, calculate the same Total Expense to Gross Income Ratio for your Union:

	19	19	19
Total Expense	Rs._____	Rs.	Rs.
Gross Income	Rs._____	Rs.	Rs._____ **Total**
Expense to Gross Income Ratio			

How does your union compare with the 85 to 90 percent standard? Are your total expenses under 100 percent? If your total expenses represent too high a percentage of your Gross Income, what steps do you feel can be taken to improve the situation?

Comment:

A FINANCIAL ACTION PLAN

The steps you have taken so far have helped you to master the skills you need to measure the financial health of your union and to identify areas where improvements may be needed. However, if your union is going to stay on the road to sustained financial strength, it will require the board and senior management to work together to develop the plans and policies necessary to achieve that goal.

What is essential is that any union financial plan be developed by both the Board and Senior Management. Union managers and board members often have different perspectives. This is particularly true when Board Meetings are devoted to current problems and do not focus on careful consideration of the future.

It is unfortunate that cooperative milk producers' unions often devote the majority of Board Meeting time to dealing with immediate problems - often problems that the Chief Executive or other Senior Managers can and should address. The consequence is that too little time is devoted to looking toward the future and developing the basic plans, strategies and policies that are necessary to build and maintain a strong union.

This section of your Workshop is designed to allow time for you to explore the future possibilities of your union's business and to learn how to work as a Board-Management team to plan for a better future.

Mission Statements

A business without a clear mission will often move aimlessly - even erratically - in a great many directions, achieving little but confusion. Today, when our competition is likely to challenge the very survival of the dairy cooperative movement, such lack of direction will only accelerate a union's demise. The basic rule today is that if your union is not moving forward, it is moving backward.

The fundamental building block for planning your union's future is a clear statement of its mission. In formulating this statement, you need to address your basic business purpose and how it relates to your members.

Developing Basic Business Purpose and Mission

The fundamental responsibility of every board is to formulate the basic purpose and mission of the cooperative. That means the board must answer the question: what is our business, and what should it be?

The mission statement must not only identify the types of business and the markets your union serves, but also the very basics of how your union will operate.

A mission statement provides the foundation for more detailed objectives, strategies and tactical plans. It is the core of a Network of Values:

Basic Socioeconomic Purpose of the Union
Personal Aims and Values of its Members
Its Mission
Long Range Objectives
Short-Range Goals and Targets

Arising from the union's basic socioeconomic purpose and the personal aims and values of its members, the Mission Statement defines the underlying design and thrust of your union's activity. The Mission Statement is important because it:

- Identifies the arena in which the union operates
- Provides a basis for the allocation of resources
- Defines the ultimate size of the union
- Opens, or closes, the door to specific opportunities
- Focuses the leadership, management and employees on a common, single direction.

While there is no single standard form for Mission Statements, they normally include reference to:

- What goods and services we deliver, and to whom
- Who we are, and who we serve
- Our basic values

Business and Operating Questions

A union board, working with its chief executive, is responsible for strategic planning. Operational planning is based on the strategic plan and deals with the details of implementation. The chief executive and his officers are responsible for the operational plan.

In developing a plan for the future, we must recognize that cooperatives have moved away from the time when non-profitable operations were allowed to survive simply because they provided a "service" to some members. We must now ensure that our business is profitable; then we can determine what additional services and areas of growth to develop.

Whenever we consider an area of activity, we must be convinced that it builds our total business - either by earning a profit, or because it is an investment that will pay long-term returns.

The following questions, and decisions based on them, should provide the basis for your long-term planning:

I. BUSINESS PURPOSE

Why is the union in business? What do we hope to accomplish? II.

UNION ANALYSIS

A. What are the present services provided by the union? What is the priority of each service?

B. In what areas of our union's business do we consider ourselves to be "experts" - as good, or better, than the best of our competitors?

C. What are our union's strengths? Its weaknesses?

III. COMPETITOR ANALYSIS

A. What/who is our competition?

B. How does the competition affect our union's business results? C.

What are our competitors' strengths? Their weaknesses?

D. How can we reduce our competition's strengths? How can we exploits its weaknesses?

IV. BUSINESS PLANNING

A. Where do we what our union to be in the near future? i.

What are the indicators we want to achieve?

B. How, as board and management, can we ensure that we achieve our goals?

C. How will what we plan to do affect our union's financial and operating strength?

PROFIT REQUIREMENT

How much does our union need over the next five years for: Purchase of

Fixed Assets		Rs. _____
Repayment of Long-Term Debt		_____
Purchase of Federation Equity		_____
Other Investments		_____
Improvement of Working Capital Position		_____
TOTAL FUNDS NEEDED		Rs. _____
Less Depreciation	(_____)	
Less Term Debt Advances	(_____)	
Total cash Needed	Rs. _____	
Divided by % Cash retained		
Total Surplus Required		Rs.