

Training Manual: The Basics of Financing Agriculture

Module 3.4 | Management Techniques II – Improving Quality
of Analysis

Acknowledgement

The Agriculture Finance Training Manual is part of AgriFin's Agriculture Finance Training Tools. The Manual was developed by [IPC](#) - Internationale Projekt Consult GmbH as part of AgriFin's technical advisory project for Cameroon Cooperative Credit Union League ([CamCCUL](#)).

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Session Overview

| | |
|---------------------------|--|
| LEARNING OBJECTIVE | To effectively evaluate the profitability and risk in loan investments, the banking team members must have strong analytical abilities. Analyzing financial statements, the viability of the loan proposal, future value of collaterals, and other necessary investment decisions require in-depth analysis of financial and business trends. This session provides an overview of key technical skills to improve analytical abilities that can be applied in the context of agricultural lending. |
| SCOPE | At the end of this session, the trainee will have a knowledge of the following topics: <ul style="list-style-type: none">• Scope and need for analysing documents to be able to evaluate loan proposals and take investment decisions• Methodologies that are typically used for analysing client information• Methods to review the analysis undertaking at primary level• Based on industry practice, key guiding principles have been provided for reference |
| TARGET | Agricultural loan officers, financial analysts, trainers, and other professionals interested in agriculture financing |
| DURATION | 2 hours |

Content

1. Objectives
2. Achieving the objectives
3. Conducting & cross-checking the analysis
 - a) Accounts receivable
 - b) Inventory
 - c) Accounts payable
 - d) Sales
 - e) Multiple sales
 - f) Gross margin
 - g) Additional family (household) income
 - h) Family expenses
 - i) Capitalization
4. Suggestions

1. Objectives

- To identify and rectify mistakes in the analyses
- To provide reliable basis for ensuring adequate loan decision-taking and credit risk management
- To optimize the quality of the credit commission
- To improve quality of loan officers' analyses through coaching and guiding during credit commission

1a. Achieving the Objectives

- Ensure that analyses are conducted in a conservative, consistent and prudent manner
- Improve quality of assessment for members' ability and willingness to repay loans
- Verify and check (for plausibility) the loan purpose:
 - Why does the member really want to take the loan?
 - Does this make sense?
- Suggest more adequate loans terms, tailored to the individual member:
 - Loan amount
 - Monthly instalment amount
 - Maturity
 - Repayment dates
- Understand the loan purpose
- Review cash flow, current situation and outlook for existing members

2. Conducting the Analysis

Critical points in compiling the balance sheet

- Accounts receivable
- Stock (inventory)
- Accounts payable
- Other (loan) obligations

Critical points in compiling the P&L statement

- Sales
- Gross margin
- Operating expenses
- Additional income/expenses



3a. Reviewing the Analysis : Accounts Receivable

- ALO must ask why turnover of receivables and credit sales do not match
- ALO must check the dates incurred and dates due of accounts receivable and analyze large accounts receivable separately
- Doubtful accounts receivable must not be included in the balance sheet; they should be noted off the balance sheet

3a. Example

Example: Mistake

- The member says that about 50% of sales are on credit
- Average payment cycle on accounts receivable is 4 months
- The member says that sales do not exceed FCFA 9,000 and there is no seasonality in sales. Accounts receivable are included at full amount quoted by member. member applies for FCFA 300,000.

| Balance sheet | |
|-------------------------------------|------------------|
| Assets | |
| Cash | 150.00 |
| Accounts receivable | 60,000.00 |
| Stock | 20,000.00 |
| Fixed assets | 5,000.00 |
| Total assets | 85,150.00 |
| Liabilities | |
| Accounts payable | 20,000.00 |
| Other credit union loans | 14,000.00 |
| Equity | 51,150.00 |
| Total assets and liabilities | 85,150.00 |

3a. Example (contd.)

Cross-checking of accounts receivable:

| Accounts receivable according to the member | Monthly sales | % of credit sales | Amount of credit sales | Turnover of accounts receivable according to calculation | Turnover of accounts receivable according the member |
|---|---------------|-----------------------|------------------------|--|---|
| 60,000 | 9,000 | 50% | 4,500 | Acc. Rec./amount of monthly sales on credit = $60,000/4,500 = 13.33$ months | 4 months, that means accounts receivable should not exceed 18,000 |
| Amount of accounts receivable | | Date of sales | | Number of members | Quality of receivables |
| 30,000 | | No more than 6 months | | 100 | Payable |
| 12,000 | | From 9 to 11 months | | 3 | Doubtful |
| 8,000 | | From 12 to 13 months | | 2 | Doubtful |
| 10,000 | | More than 13 months | | 2 | Doubtful |

The prudent approach: use conservative, verified figures i.e. verify the quality of receivables and do not include doubtful accounts receivable!

3a. Example (contd.)

Example: Corrected

- After cross-checking and reducing accounts receivable, equity has changed significantly!

| Balance sheet | |
|-------------------------------------|------------------|
| Assets | |
| Cash | 150.00 |
| Accounts receivable | 30,000.00 |
| Stock | 20,000.00 |
| Fixed assets | 5,000.00 |
| Total assets | 55,150.00 |
| Liabilities | |
| Accounts payable | 20,000.00 |
| Other credit union loans | 14,000.00 |
| Equity | 21,150.00 |
| Total assets and liabilities | 55,150.00 |

3b. Reviewing the Analysis: Inventory

Usually members say:

- *“I have a total inventory of 50,000 FCFA” or*
- *“I have inventory in the shop for around 40,000 FCFA and in the warehouse for around 30,000 FCFA”*

Not counting the inventory, just making a rough estimate and then putting this figure in the balance sheet is a source for big mistakes!!

How to make a quality cross-check

Loan officers should have seen the inventory, cross-checked that it actually belongs to the member and classified it to determine its marketability and value

- Classification by category: shoes, bags, jeans, jackets, etc.
- Classification by season

The ALO must estimate inventories in a systematic way, spot-check actual positions and explain the estimation method and process at credit commission

3c. Reviewing the Analysis: Accounts Payable

Many members will say that they owe no money to suppliers

How to make a quality cross-check:

Ask the ALO what the member's business model looks like and how the business is organized (e.g. number of suppliers, payment conditions, etc.)

The ALO should be able to describe business organization, management, suppliers, members, payment conditions, etc. in detail

3c. Example

Example: Mistake

- The member is running a bookshop
- He claims that he has no payables
- The member is at the beginning of the high season for sales
- The main purchase of FCFA 300,000 is usually done in April
- The member would like a loan of FCFA 300,000 for the purpose of bridging a cash squeeze (the ALO does not inquire into details of the actual loan purpose)

| Balance sheet on 30/08/2008 14:00 | |
|--------------------------------------|------------------|
| Assets | |
| Cash | 200.00 |
| Accounts receivable | 10,000.00 |
| Stock | 50,000.00 |
| Fixed assets | 7,000.00 |
| Total assets | 67,200.00 |
| Liabilities | |
| Accounts payable | 0.00 |
| Other credit union loans | 10,000.00 |
| Equity | 57,200.00 |
| Total Liabilities and assets | 67,200.00 |

3c. Example (contd.)

Example: Mistake

- The member is running a bookshop
- He claims that he has no payables
- The member is at the beginning of the high season for sales
- The main purchase of FCFA 300,000 is usually done in April
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| Balance sheet on 30/08/2008 14:00 | |
|--------------------------------------|------------------|
| Assets | |
| Cash | 200.00 |
| Accounts receivable | 10,000.00 |
| Stock | 50,000.00 |
| Fixed assets | 7,000.00 |
| Total assets | 67,200.00 |
| Liabilities | |
| Accounts payable | 0.00 |
| Other credit union loans | 10,000.00 |
| Equity | 57,200.00 |
| Total Liabilities and assets | 67,200.00 |

3c. Example (contd.)

Example: Corrected

- The “cash squeeze” is in fact unpaid bills with the supplier, who demands payment before providing new goods
- Changes in accounts payables can cause a significant decrease in equity
- In this case the question comes up why the member cannot pay his supplier

| Balance sheet | |
|-------------------------------------|------------------|
| Assets | |
| Cash | 200.00 |
| Accounts receivable | 10,000.00 |
| Stock | 50,000.00 |
| Fixed assets | 7,000.00 |
| Total assets | 67,200.00 |
| Liabilities | |
| Accounts payable | 30,000.00 |
| Other credit union loans | 10,000.00 |
| Equity | 27,200.00 |
| Total Liabilities and assets | 67,200.00 |

3d. Reviewing the Analysis: Sales

Regarding sales a loan officer must:

- Verify that turnover data provided by the member is “true”, i.e. plausible
- Check on seasonality of sales

To do this loan officers should:

- Take information for daily, weekly, monthly and annual sales and compare them
- Take data for the last few days in detail
- Collect information on the periodicity and amount of purchases and cross-check them against sales
- Separate information on the sales of different shops/lines of business

3d. Example

Example: The member is running a little supermarket. Does the data collected during the analysis confirm the member’s statement on sales?

| Information collected from client | | P&L | |
|-----------------------------------|---------------------|--------------------------|---------------|
| Daily average sales | 650.00 -700.00 FCFA | | Amount (FCFA) |
| Monthly sales | 20,000.00 FCFA | Gross margin | 20% |
| Period of purchases | 1 per week | Sales | 20,000.00 |
| Sales yesterday | 660.00 | Cost of goods sold | 16,000.00 |
| Sales day before yesterday | 680.00 | Gross profit | 4,000.00 |
| Sales 3 days ago | 650.00 | Operating expenses | 1,000.00 |
| Amt. of 1 purchase | 4,000.00 | Net Profit | 3,000.00 |
| Weekly sales | 4,700.00 | Family expenses | 1,000.00 |
| Seasonality | No | Profit after family exp. | 2,000.00 |
| | | Other credit instalments | 0.00 |
| | | Available cash | 2,000.00 |

3d. Reviewing the Analysis: Sales (contd.)

How to make a quality cross-check:

Ask the ALO how he/she verified sales levels and seasonality

- Find out what determines the member's good and bad months, how much better than average good months are/how much worse bad months are

Compare daily, weekly, monthly, (quarterly) and annual sales for plausibility and logical consistency

- ALO should have taken information on sales in different ways at different times
- E.g. The member states monthly sales of 30,000 FCFA. The loan officer takes the following information: daily sales are around 1,000 FCFA, weekly 7,000 FCFA and annual about 360,000 FCFA. Now we can draw the conclusion that monthly sales range between 360,000 FCFA ($7,000/7*30*12$) and 364,000 FCFA ($7,000*52$), i.e. about 30,000 FCFA per month is possible.

Note: in order to be prudent, the loan officer should collect additional information (e.g. seasonality, closing of business for holidays, illness, etc.) to see whether actual monthly turnovers are close to 30,000 FCFA or actually a bit lower

3d. Reviewing the Analysis: Sales (contd.)

Ask the ALO how he/she verified sales levels and seasonality

- Find out what determines the member's good and bad months, how much better than average good months are/how much worse bad months are

Compare daily, weekly, monthly, (quarterly) and annual sales for plausibility and logical consistency

- The loan officer should have taken information on sales in different ways at different times
- E.g. The member states monthly sales of 30,000 FCFA. The loan officer takes the following information: daily sales are around 1,000 FCFA, weekly 7,000 FCFA and annual about 360,000 FCFA. Now we can draw the conclusion that monthly sales range between 360,000 FCFA ($7,000/7*30*12$) and 364,000 FCFA ($7,000*52$), i.e. about 30,000 FCFA per month is possible.

Note: in order to be prudent, the loan officer should collect additional information (e.g. seasonality, closing of business for holidays, illness, etc.) to see whether actual monthly turnovers are close to 30,000 FCFA or actually a bit lower

3d. Reviewing the Analysis: Sales (contd.)

Ask the ALO specifically about the member's turnovers for the last few day; the last few days may be some of the most important information!

- Latest sales data should be included (although they represent only partial information for the month they can indicate changes in business levels, seasonality the loan officer may have missed) members can usually easily remember and explain sales information for the last few days

Ask the ALO for data on the member's purchases: compare sales to the amount and periodicity of purchases

- The member says that he had average monthly sales of around 20,000 FCFA
- The member states that he makes purchases 2 times per month. Each purchase is for 5,000 FCFA. Gross margin is 50%.
- From the cross-check we can conclude that the member's information is consistent (5,000 FCFA+ 5,000 FCFA) = 10,000 FCFA/0.5 = 20,000 FCFA.

3d. Reviewing the Analysis: Sales (contd.)

Example: The member is running a little supermarket. Does the data collected during the analysis confirm the member's statement on sales?

| Information collected from client | | P&L | |
|-----------------------------------|---------------------|------------------------------|---------------|
| Daily average sales | 650.00 -700.00 FCFA | | Amount (FCFA) |
| Monthly sales | 20,000.00 FCFA | Gross margin | 20% |
| Period of purchases | 1 per week | Sales | 20,000.00 |
| Sales yesterday | 660.00 | Cost of goods sold | 16,000.00 |
| Sales the day before yesterday | 680.00 | Gross profit | 4,000.00 |
| Sales three days ago | 650.00 | Operating expenses | 1,000.00 |
| Amount of one purchase | 4,000.00 | Net Profit | 3,000.00 |
| Weekly sales | 4,700.00 | Family expenses | 1,000.00 |
| Seasonality | No | Profit after family expenses | 2,000.00 |
| | | Other credit instalments | 0.00 |
| | | Available cash | 2,000.00 |

3e. Reviewing the Analysis: Multiple sales

- If the member is running more than one business then it is necessary to:
 - Analyze each business activity separately and understand possible links between the activities (e.g. joint purchases, sales to each other)
 - Clarify profitability for each business activity
 - Consolidate the financial statements

Ask the loan officer for the profit and loss calculation for each activity, including seasonality of all business lines, share in overall profit of each business line

Ask the loan officer on the composition of the balance sheet (what belongs to which activity)

3e. Reviewing the Analysis: Multiple Sales (contd.)

Example:

The member is running 2 businesses:
 - a tea house
 - a small restaurant.

He has applied for a loan of **FCFA 240,000** for **36 months** to purchase a new van for the business(es).

Monthly installment will be approximately **FCFA 9500**.

| Incorrect | | Correct | | |
|--|----------|-----------|------------|--------------|
| Tea house | | Tea house | Restaurant | Consolidated |
| Gross margin | 75% | 75% | 50% | |
| Sales | 3,000.00 | 3,000.00 | 4,000.00 | 7,000.00 |
| Cost of goods solds | 750.00 | 750.00 | 2,000.00 | 2,750.00 |
| Gross profit | 2,250.00 | 2,250.00 | 2,000.00 | 4,250.00 |
| Operating Expenses | | | | |
| Salaries | 400.00 | 400.00 | 600.00 | 1,000.00 |
| Rent | 200.00 | 200.00 | 300.00 | 500.00 |
| Utilities | 300.00 | 300.00 | 300.00 | 600.00 |
| Taxes and social security | 200.00 | 200.00 | 300.00 | 500.00 |
| Accounting | 50.00 | 50.00 | 50.00 | 100.00 |
| Total | 1,150.00 | 1,150.00 | 1,550.00 | 2,700.00 |
| Net profit | 1,100.00 | 1,100.00 | 450.00 | 1,550.00 |
| Other incomes (member is also running a small restaurant) | 1,500.00 | 0.00 | 0.00 | 0.00 |
| Family expenses | 800.00 | 800.00 | 0.00 | 800.00 |
| Other credit instalments | 0.00 | 0.00 | 0.00 | 0.00 |
| Cash at the end of the month | 1,800.00 | 300.00 | 450.00 | 750.00 |



3f. Reviewing the Analysis: Gross Margin

Gross margin

Members usually tend to overstate the gross margin

How to make a quality cross-check: ask the loan officer how he/she calculated the margin(s) and

- Compare the member's gross margin to actual market conditions
- Compare the margin stated by the member and the calculated margin
- Compare the sales price/profit stated by the member to the price/profit of others in the same business

3g. Reviewing the Analysis: Additional Income

Additional family (household) income

Usually members are willing to disclose additional family income (if asked)

How to make a quality cross-check: ask the loan officer how he/she determined additional family incomes

ALOs should:

- Visually check payment slips, credit union or banks statements, rent contracts, real estate deeds, etc.
- Collect oral information from different sources
- Indirectly verify data via capitalization, living conditions, etc.

3h. Reviewing the Analysis: Family Expenses

Members can under- or over-estimate household expenses

The member said that the monthly household expenses do not exceed FCFA 30000 but the loan officer states that the member lives together with his wife and 3 children. Their house is rented and two children are still at primary school.

How to make a quality cross-check: ask the loan officer about the whole family (household) unit: children, elders, gifts, house rent, etc.

A logical explanation is required when what the member says about his household expenses does not match stated living conditions, especially if the amount stated is much higher or lower than the local average level.

3i. Reviewing the Analysis: Capitalization

Cross-checking financial data: link balance sheet, profit & loss statement and cash flow, check consistency of data over time, and link the requested loan amount with the available data

Cross-checking equity:

Equity (E) = Total assets (TA) – Total liabilities (TL)

Initial capital + accumulated profit = equity (e)

E ≈ e: OK

E < e: not OK

Profit & Loss Statement could be overstating profit (mistake in margin, operating expenses, seasonal impact) or member could be pulling some profit out of the business (personal expenses, investments)

E > e: not OK

Profit & Loss Statement could be understating profit (mistake in margin, operating expenses, seasonal impact) or member could be trying to conceal debts

3i. Reviewing the Analysis: Capitalization (contd.)

| | | |
|---|--------------------------|--------------------------------------|
| | Starting equity | |
| + | Accumulated profit | Total of payment capacity |
| + | Equity injection | Further investments in the business |
| - | Equity withdrawal | Further withdrawal from the business |
| + | Assets appreciation | Changes in value of fixed assets |
| - | Assets depreciation | Changes in value of fixed assets |
| = | Calculated equity | |

Notes:

- These are all changes to equity
- Renovation of business premises are usually not reflected in the Balance Sheet
- Be sure to get explanations of sources for “injections”

3i. Reviewing the Analysis: Capitalization (contd.)

| | | |
|---------------------|--------------------------|--|
| 30,000 FCFA | Starting equity | Starting total assets - total liabilities (according to financial analysis on 01 Apr., 2012) |
| +9,600 FCFA | Accumulated profit | Total of payment capacity (for period from 01 Apr. 2012 to 01 Apr. 2013, average payment capacity is 800 FCFA) |
| +10,000 FCFA | Equity injection | Further investment in the business (March 2013; sale of land) |
| -15,000 FCFA | Equity withdrawal | Further withdrawal from the business (The son's wedding in March 2013) |
| + 0 | Assets appreciation | Changes in value of fixed assets |
| - 2,000 FCFA | Assets depreciation | Changes in value of fixed assets (Depreciation for one year in value of member's car) |
| =32,600 FCFA | Calculated equity | |

3i. Reviewing the Analysis: Capitalization (contd.)

- According to the analysis on the previous slide, in April 2012 equity was 30,000 FCFA
- One year later (April 2013) the LO analyses the business and arrives at 32,000 FCFA
- The cross-check shows that this seems realistic and that the profit and loss statement (profit development) matches assets

4. Suggestions

- a) Review cash flow and current position**

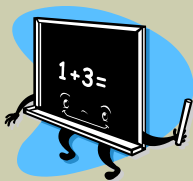
- b) Improve the quality of assessment of members' ability and willingness to repay a loan to design more adequate loans terms**
 - Loan amount
 - Monthly installment amount
 - Maturity
 - Repayment dates

- c) Understand the loan purpose**
 - Total cost of plan, required loan amount, sources of the remainder?
 - Reason for the plan?

4a. Review Cash Flow and Current Position

Ask the ALO about the client and his business:

- Member's background, education, experience, relations
- Motivation for running the business and plans for the future
- The history and development of the business over time, current position in the market
- Business organization and key players in the business
- The actual loan purpose



At first glance all the financials look fine, the loan purpose appears to make sense (seasonal increase stock), loan security can also be provided; however, the member's position in the market is deteriorating (two new and very strong competitors opened shops in the vicinity of the member) who offer a much broader selection and better service; in addition, the member's partner (who is primarily responsible for purchases and customer relations) will be leaving the area and business at the end of the month – would you approve this loan?

4a. Example

Case: The member is running a little market. The member applied for loan 25,000 FCFA for inventory supplies, maturity 12 months. Monthly installment will be around 2,370 FCFA

| Information collected from client | | P&L | |
|-----------------------------------|--------------------|--|-------------------|
| Daily average sales | 650.00-700.00 FCFA | | Amount (FCFA) |
| Monthly sales | 20,000.00 FCFA | Gross margin | 20% |
| Period of purchases | 1 per week | Sales | 20,000.00 |
| Sales yesterday | 660.00 FCFA | Cost of goods sold | 16,000.00 |
| Sales the day before yesterday | 680.00 FCFA | Gross profit | 4,000.00 |
| Sales three days ago | 650.00 FCFA | Operating expenses | 1,000.00 |
| Amount of one purchase | 4,000.00 FCFA | Net profit | 3,000.00 |
| Weekly sales | 4,700.00 FCFA | Family expenses | 950.00 |
| Seasonality | No | Profit after family expenses | 2,050.00 |
| | | Other credit instalments | 0.00 |
| | | Available cash/possible monthly instalment | 2,000.00/1,600.00 |

4a. Example (contd.)

Case Analysis:

- The member's ability to pay (1,600 FCFA) and his desire (2,360 FCFA) do not match
- If we disburse the same amount (25,000 FCFA) for a longer maturity, e.g. 24 months, the instalment would be 1,360 FCFA
- But, the longer maturity could mean more risk
- Depending on the loan purpose, it could make sense to propose a smaller loan amount or, if the loan purpose requires the original amount to approve the longer maturity, but tighten monitoring requirements and/or loan security

4b. Assessment of Clients Ability and Willingness to Repay a Loan

- Primary purpose of the analysis is to assess the creditworthiness of a potential borrower
- Collecting numbers and putting them into the analysis form is the smallest part of the analysis
- The big part is:
 - Making sure the information presented is complete and correct
 - Analyzing the received information for plausibility
 - Assessing the member's ability and willingness to repay a loan
 - Designing the loan approval to best match credit union and member
 - Returning incomplete loan proposals for further analysis



4c. Verify and Check (for plausibility) the Loan Purpose

Be sure to understand the loan purpose: the ALO must always try to find out why the member really wants to take the loan:

- “purchases” or “repay private debts” is not enough: ALO must get the details

Understanding and verifying the loan purpose are key parts of the analysis:

- only if we understand the loan purpose can we make the right loan decision

For more resources please visit AgriFin's website

www.AgriFin.org

We welcome your feedback to help us further refine these training materials. Please contact us at agrifin@worldbank.org.