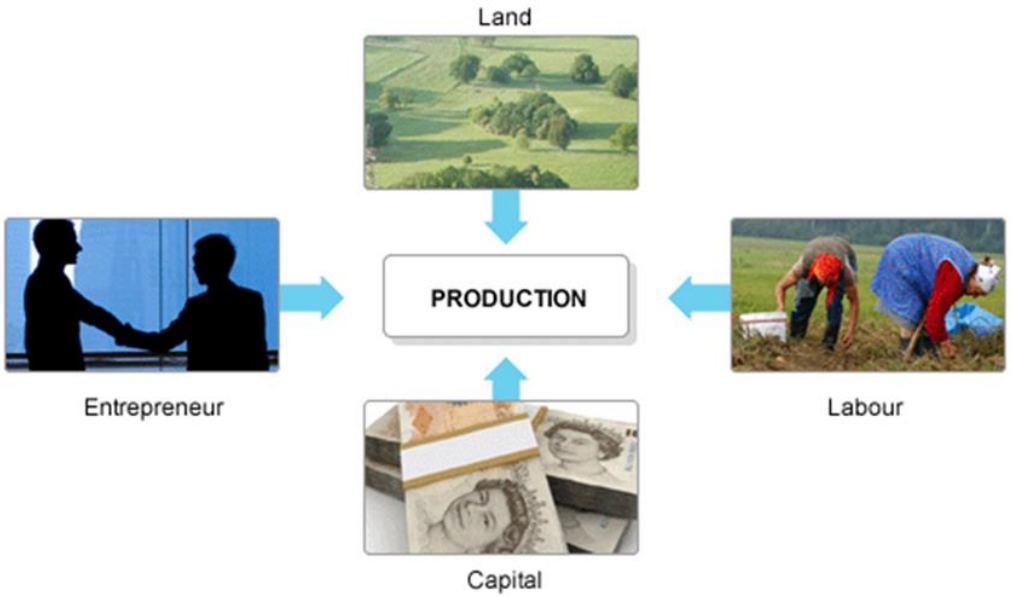
SUBJECT AND GRADE	Agricultural Sciences	GRADE	12
TERM	*3*	*WEEK*	*2*
TOPIC	**Agricultural Production Factors: Capital and Management**		
OBJECTIVES OF LESSON	**At the end of the lesson learners should be able to**: **Capital** • Terminology: Capital, assets, cash flow, budgets • The types of capital (with suitable examples) • The methods of creating capital • The sources of finance / credit (long-term, medium-term and short-term credit) • The problems of capital as a factor of production • The capital / financial management system: financial records, farm asset records and farm budgets • The differences between an operating budget and a whole farm budget (example of farm budget) • The components of a cash flow statement • The main aspects included in a cash flow budget statement **Management** • The concept: farm management / management, strategic farm risk management • The principles / components of management • The general management skills needed to run a farm business • The internal and external forces that influence / affect a farm business • The primary sources of risk in farming business • The main risk management strategies / techniques (diversification strategies, risk allocation strategies)		
RESOURCES	***Paper-based resources***		
	Relevant textbooks*:* ***The Answer Series: (Pg. 124)*** *Important terminology that can help you understand key concepts.*		
INTRODUCTION	• ***Previous content covered in the previous lesson should be linked to the current content:*** • **"Land and Labour"** • *The purpose of the following lesson is to identify the content related to:* Discuss "Agricultural Production Factors: Capital and Management".		

CONCEPTS AND SKILLS	• **Agricultural production factors:**
	  • **Capital**
	  • **Management**
	  • Land
	  • Labour
	
	
	
	<u>Capital</u>
	
	• **Terminology**
	
	• **Capital** is money or equipment saved or collected by the farmer to use in the pucca process. In other words, the farmer creates capital through effort and value adding.
	
	• **Assets** includes anything of value on the farm, such as the land, machinery, buildings and livestock. The farmer can use money to buy assets to farm with.
	Assets are physical items that have economic value and can be converted into cash if sold by the farmer. The farm itself (the land) is an asset because it includes all the machinery on the farm, livestock and, if insured, even the crops on the fields.
		Also look at terminology:
		Answer series page 124
		Answer the following questions in your homework exercise book.
		Answer series page 130 -148
		Question:
		1 - 48

- **Cash flow** refers to the inflow and outflow of money into the farmer's bank account. Money is needed to pay creditors and so the farmer has to sell products from the farm to bring in cash. The farmer can also borrow money from the bank (a bank overdraft) for the times of the year when he or she does not receive an income.

- **Budgets** are calculations, or forecasts, of income and expenditure. A budget is therefore a prediction of how the farmer will make and spend money in the next year or even over a longer period. All efficient businesses must have a budget. This makes it possible to run the business efficiently and remain solvent.

  Types of capital
  - **Fixed capital / Buildings**: Such as barns, houses and milk portals
  - **Movable / Loosening capital.** Machinery: such as tractors, trucks, pumps, milking machines, animals
  - **Working / Floating / Working Capital.** Raw material: like fertilizer, and seed. Animal feed: such as Lucerne, hay and pasture.

  Other types of capital
  - **Social capital** cannot be measured in terms of money. It is the relationship of trust between people in a community.
  - **Individual capital** is also an abstract concept. These are the skills and talents that workers possess.
  - **Financial capital** is also a kind of money based capital.
  - **Public capital** refers to state assets (the country's assets). These assets are used by the citizens, who paid for it indirectly through taxes. Roads, railways, airports,
  - **Natural capital** is part of the natural world and its ecological systems. The river from which the farmer pumps water. The land on the fields and the falling rain are all part of natural capital.

  Methods to create capital
  - Creating capital through savings
  - The farmer can use cash from the farming enterprise to invest in. Additional livestock, more land or to improve on-site facilities. Any future investment must generate enough extra income to justify the spending of capital.
  - Creating capital through credit
  - A farmer can borrow on credit to expand the business or purchase new assets. However, the farmer must ensure that the new purchases will generate enough extra money to repay the loan and interest

Example of how capital is created in agriculture:

- A farmer buys wheat seed, sows it, applies fertilizer and waits for it to grow.
- The wheat is harvested and sold per ton. The value of the crop is more than the original investment in seed and fertilizer and the production costs.
- The flour that the maize buys makes flour and adds further value.
- The flour is sold to a pasta company, which makes spaghetti, packs and sells to supermarkets so you can buy it there

Sources of financing and credit

- **Sources of financing** available to farmers include commercial banks, the Land Bank, the local agricultural cooperative, and family and friends.

- **Terms**
  - **Long-term financing** is usually over a period of between 10 and 35 years.
  - **Medium term financing** is usually over a period of between 1 and 5 years.
  - **Short-term financing** applies for a period of less than one year

Terms

- **Long-term financing** is usually over a period of between 10 and 35 years. Long-term funding is used to buy land and steady improvements
- **Medium term financing** is usually over a period of between 1 and 5 years. for example, raising breeding stock and other movable capital.
- **Short-term financing** applies for a period of less than one year.
- **Like** fuel, seed and fertilizer for the current production season.

Problems with capital

- Overcapitalization
- Undercapitalization
- Capital is scarce
- Capital is subject to high risk
- Interest rates may change
- Depreciation of capital
- Access to capital is not easy to access capital
- Risk
- Expensive capital: Many farmers have to borrow capital.
- The law of diminishing returns:

Capital or financial management systems

- Financial records
- Farm Asset Records
- Farm budgets e.g. operating budgets whole farm budgets.
- Cash flow statement

Farm asset records

- Inventory of movable capital, in other words machinery, implements and vehicles
- Inventory of commodities, in other words products sold by the farmer
- Stock breeding stock
- Other livestock
- Other records such as farm size, total camp size, production potential of each camp's carrying capacity of natural pasture per camp.

Whole farm budget

- An entire farm can be considered a business.
- Different production lines (i.e. parts that operate separately) on the farm can be considered as enterprises.
- So a farm can have a few businesses, such as fruit growing, tourism, and raising and selling livestock.

Enterprise budgets

- A business budget is calculated on a per-unit basis, such as an acre of land or livestock, or one year or one production period.
- This is a simple list of estimated income and expenses for the particular line or farming unit.
- Enterprise budgets estimate profitability for the specific agricultural enterprise.
- Enterprise budgets help to estimate the annual revenue per unit, cost and net income of the particular division.

A cash flow statement

- In addition to an income and balance sheet, a cash flow statement is one of the financial statements that a business must prepare at the end of each financial year.
- It shows the cash resources and how they were used.
- There are three components to which a company enters and leaves cash: through core farming operations, investment and financing.

Cash flow budget

- On completion of the business budgets, a cash flow budget is being prepared as part of the farming plans for the coming year.
- It is a very important tool in the financial management of farming enterprises.

- The main reason for this is that cash flows are seasonal, while payouts are made throughout the year.

Cash Flow Budget Information:

- How much cash income will be received
- How much expenses will be incurred
- When cash surplus and deficits can occur
- How much credit is needed.
- When and to whom credit can be obtained
- The repayment period and repayment amount for debt.

	Januarie	Februarie	Maart	K1	April	Mei	Junie	K2	H1
Aanvangsbanksaldo	**1 500**	**11 074**	**12 191**	**1 500**	**1 593**	**10 149**	**14 081**	**1 593**	**1 500**
Ontvangste									
Kontant van kliënte									
• Ontvangbare rekeninge	5 294	5 103	4 578	14 975	6 351	7 424	5 492	19 264	34 239
• Betalings op rekening	150	0	0	150	575	0	255	830	980
Ontvangbare dividende/huur	150	150	150	450	150	150	150	450	900
Verkoop van bates	0	0	0	0	0	1 500	0	1 500	1 500
Befondsing ontvang									
• Banklenings	0	0	0	0	5 000	0	0	5 000	5 000
• Kapitaal ingebring	7 500	0	0	7 500	0	0	0	0	7 500
Subtotaal: Ontvangste	13 094	5 253	4 728	23 075	12 076	9 071	5 897	27 044	50 199
Betalings									
Betaalbare rekeninge	−2 501	−3 002	−4 700	−10 203	−2 501	−4 005	−5 009	−11 515	−21 718
Salarisse en lone	−510	−625	−617	−1 752	−510	−625	−617	−1 752	−3 604
Belasting en maatskaplike sekerheid	−357	−357	−357	−1 071	−357	−357	−357	−1.071	−2 142
Bates bekom	0	0	0	0	0	0	−12 500	−12 500	−12 500
Lenings									
• Kapitaalterugbetalings	−50	−52	−54	−156	−50	−52	−54	−156	−312
• Rente op bedrag verskuldig	−102	−100	−98	−300	−102	−100	−98	−300	−600
Subtotaal: Betalings	-3 502	−4 136	−5 826	−13 482	−3 520	−5 139	−18 635	−27 294	−40 776
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Eindsaldo	**11 074**	**12 191**	**11 093**	**11 093**	**10 149**	**14 081**	**1 343**	**1 343**	**10 843**

Help for farmer:

- Monitor spending
- Prevent potential cash management problems because it shows if there is enough revenue to cover expenses and expenses that occur.
- Indicate when cash is available for new investments
- Ensure that the farm always has enough money

Management

- Management is the art of getting other people to do work in a coordinated way.
- It is the process of designing and maintaining an environment where individual workers work together to achieve a specific goal.
- Management is an important component of a successful business.

Principals

- Farm management is the science of decision-making to achieve desired goals, such as farming sustainably and increasing profitability. In order to achieve these goals, a farm manager must decide on:
- The type of business and the product to be produced
- the amount of product to produce, taking into account the resources available for production
- The resources, such as labor, equipment, natural resources and capital, needed
- The most efficient or cheapest way to produce the desired product
- The best time for production.

Basic principles of effective management are:

- **Goal:** Set a goal or goals.
- **Plan:** Plan how to achieve the goal or objectives.
- **Organize:** Give specific people specific responsibilities by deciding who will do what.
- **Lead**: How should things be done?
- **Control:** Make sure results are achieved and goals achieved.

The law of diminishing returns

An increase in one type of input will increase production, but only to a certain point. As Input increases, production will increase less and less (with a smaller and smaller amount of growth) until an increase in input will no longer lead to an increase in production.

The law of equal-marginal excess returns

- Help the farmer decide how to allocate resources in times of scarcity
- An example is the use of irrigation in water scarce areas.

	• If a vineyard can be irrigated only once in a season, the manager must be able to decide when to do it. **The Law of Substitution (Lowest Cost Principle)** • To minimize costs, a farmer may decide to use one resource as a substitute for other resources. • For example, a farmer can apply the practice of minimal tillage: when crop residues are left on the fields, the organic matter increases when crop residues are released on the fields, the organic increases: **The principle of combining businesses** • Solve the problem of "what to produce?" on by guiding the manager in determining the optimal combination of products. • For example, chicken farmers keep laying hens for their eggs, but can at the same time sell their manure as fertilizer. **Cost concepts and principles** • Goods and services purchased must be recorded at their historical cost and not at their current market value. • For example, a farmer should list his vehicles at cost less depreciation, and not and the current market value. **The Law of Opportunity Costs** • The advantage of producing more products must be weighed against the cost of production. • In farming it can be applied to the cost of natural resources in order to produce more of a product, such as keeping more sheep in an area which is the carrying capacity of the area. • This will cause the area to be overused and the natural resources depleted. **The law of comparative advantage** • Explain regional specialization in the production of raw materials. • Vegetable farmers, for example, should preferably be closer to markets because their products have a relatively short shelf life. Sheep farmers, again, should preferably be further away from densely populated areas to prevent stock theft and attacks by stray dogs. **General management skills** • Planning • Organization	

- Personnel management
- Leadership.
- Control

Benefits of planning

- Helps prevent costly mistakes
- Enable the farmer to make best use of all the resources at his or her disposal and to identify gaps
- Provide confidence that the business will be run in the long term
- Assist in achieving the set goals
- Provides a means to control the financial side of the business.

Steps in planning

- **Set goals,** that is, what must be achieved in the long and short term.
- **Gather information** on all specific aspects of farming by referring to literature and talking to fellow farmers, extension officers and private companies in the industry. It also includes looking at the past and the present.
- **Consider** all possible changes and **risks.**
- **Identify** and compare all production **choices.**

Planning intervals

- **Long-term planning:** A broad plan showing what should be achieved in the next five to ten years or even longer.
- **Mid-term planning:** Plans for each farm business to be executed during a year in order to achieve goals.
- **Short-term planning:** The planning of farm activities should be carried out for a month or week

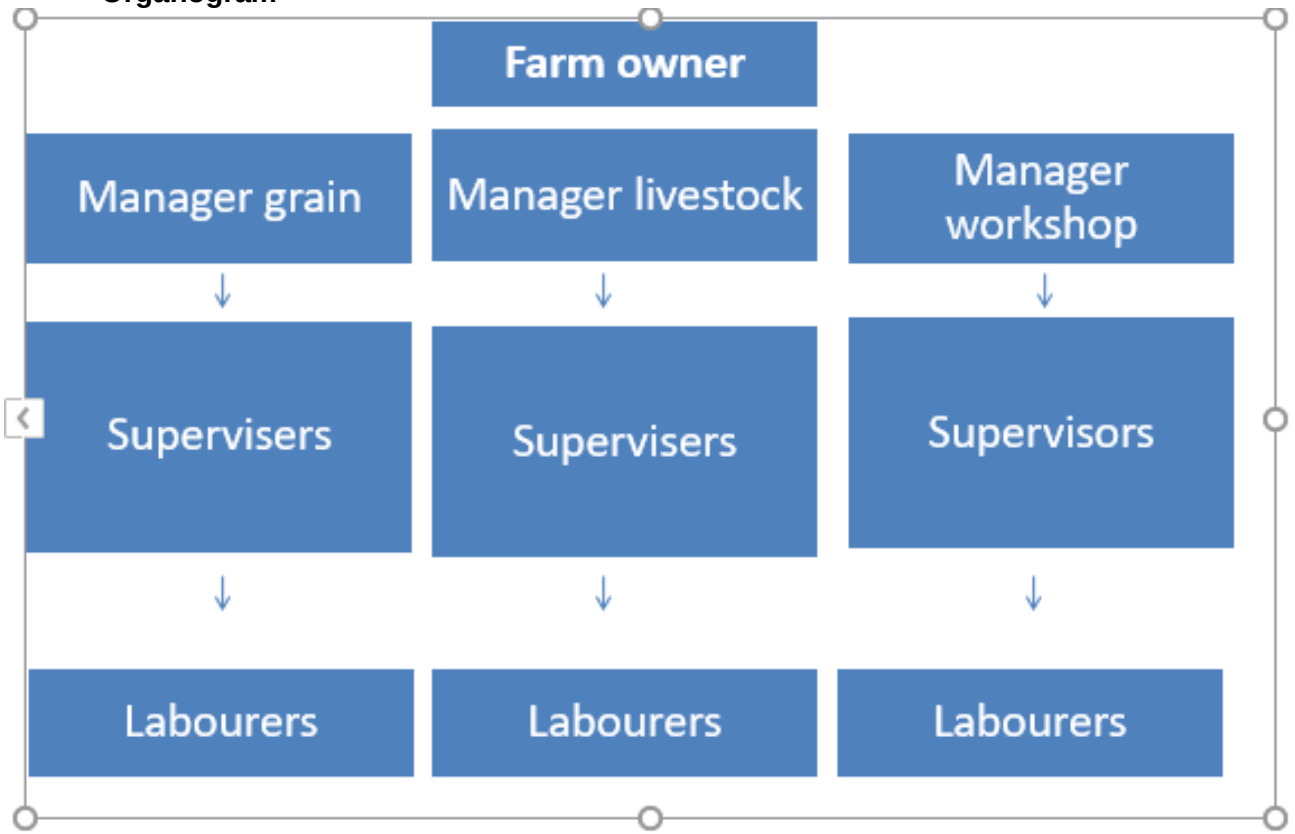
Organize

- Organizing is the acquisition and organization of the necessary land, labor, machinery, livestock, capital and management resources.
- It is a process that continues on the farm.

Benefits of organizing

- The farm manager divides the farm work into different production lines and into group or individual activities, and then assigns workers to each of these.
- It is important that every worker gets the 'right' job to do to ensure optimum production. It is also important for workers to do the work they love most.
- Delegate certain powers and responsibilities.
- See the relationship between tasks so that there can be good coordination.

- **Organogram**

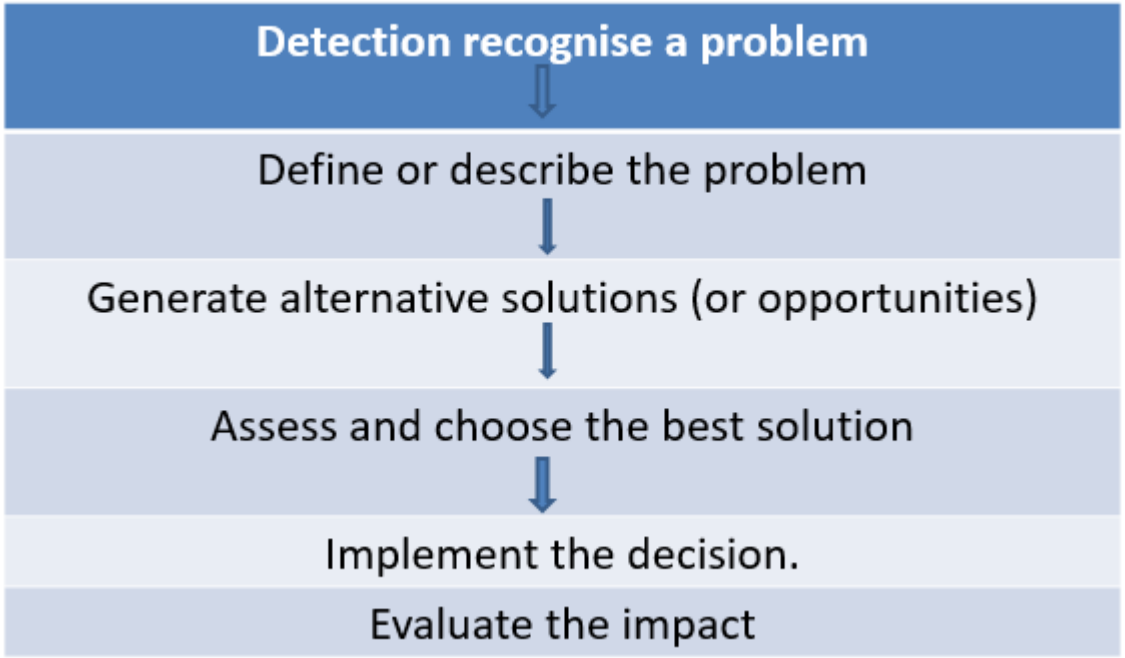


Control and decision making

- Control is that management function that has to do with measuring and reporting data, comparing the actual results to set standards, actions to correct plan deviations and any other problems observed. For these constant evaluation processes, when comparing actual results with expected results and taking corrective actions, the following is required:
- Proper planning must be in place: Without planning, there can be no proper control, because planning serves as the first step in the control task by drawing up action plans needed for control.
- Financial records, such as cash flow and business budgets, must be maintained to serve as aids for control.

- Control systems that will alert the driver about deviations must be in place. This includes quality and quantity work standards.

- **Steps in the decision-making process**



- **General management skills**
  - Decision-making skills.
  - Delegation skills
  - Leadership skills
  - Coordinate skills
  - Communication and
  - interpersonal skills

- **Internal and external forces**
  - Internal forces
  - Business goals
  - Workforce experience and skills:
  - Financial resources:
  - Management and administrative systems:

- Image and reputation of the company:
- Production techniques, technology and processes:

External forces	
Market environmental forces	**Market environmental forces**
• Competition • Unions • Suppliers • Intermediaries • Regulators • Strategic partners	• Politics • Economics • Society • Technology • Law • Environment

- **Primary sources of risks in farming**
  - **Production risk.** Yields on crops or livestock are not certain before the harvest or final sale.
  - **Technological risk.** New technologies are constantly emerging to increase production. Farmer doesn't know if it works
  - **Price or market risk.** The price of natural resources varies from year to year and may even vary within a year.
  - **Financial risk.** It is the risk of borrowing money to finance farming businesses
  - **Climate risk**. Floods, droughts, wildfires or tornadoes can cause damage
  - **Biological risk.** Farmers must take the risk of pests and outbreaks of diseases such as foot-and-mouth disease, bird flu, Newcastle disease
  - **Policy or political risk.** Political conflict often disrupts markets and can cause foreign trade partners to withdraw from contracts
  - **Occupational and health risks.** The illness or death of key workers can cause a loss in production and result in high costs for retraining workers or outsourcing the services

Risk management strategies

- **Diversification.** Explanation of just one product for a constant income.
- **Stable production.** Crops grown under irrigation will provide more stable yields than dryland farming.
- **Harvest and livestock insurance.** Flood, wind, hail insurance.
- **Adaptability.** Adaptability is the ability to change plans gradually as new information is acquired.

	• **Distribution of sales**. Selling all products at once can be a risk because the market can be saturated with products by competitors. **Risk management strategies** • **Hedge**. It is a technical procedure dealing with the negotiation of contracts for a future harvest by specialized people. • **Contract sales.** Before the planting season, a contract is concluded with a buyer or processor for a specific quantity of a product at a fixed price. • **Minimum support price**. The government buys the farmer's product if the market price falls below the support price. • **Net value.** The net worth of the enterprise provides the solvency, liquidity and available credit for a farming enterprise.	
ACTIVITIES / ASSESSMENT	***Learners can also use the following information sources to do activities:*** • *Relevant Grade 12 textbooks:* • *Focus Control Test Book Grade 12* • *Mind the Gap Agricultural Sciences Grade 12* • *Pass Agricultural Sciences Grade 12* (Module 8 Page 99) Revision Questions Page 103-106 • *Previous grade 12 November exam papers*	
CONSOLIDATION	• The lesson deals with the content as set out in the CAPS document. • Learners who understand the content must apply the necessary knowledge and skills to successfully answer questions based on the curriculum content. • Learners are able to use the knowledge and skills as a good foundation for progress to the next topic. (Agricultural Marketing)	