

# AEC 308

# PRINCIPLE OF FARM MANAGEMENT

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**NATIONAL OPEN UNIVERSITY OF NIGERIA**



**AEC 308**  
**PRINCIPLES OF FARM MANAGEMENT**

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## **Introduction**

Agriculture is regarded as the art and science of cultivating crops, raising livestock, provision of raw materials for industries and marketing of agricultural products for man's use. There are many branches of agriculture which among others include: agricultural economics, crop science, soil science, animal science, fishery, forestry and agricultural engineering.

Agricultural economics involves the application of economic principles in agriculture. One of the important branches of agricultural economics is farm management. Generally speaking, management is the ability of some people to compel economic progress through forceful direction and co-ordination of other people's efforts. When apply to farm business, management could be seen as a practical undertaken of the farm business with respect of how to put the crop and livestock husbandry to work on the farm as a means of obtaining high profit.

Farm management is a science which deals with proper combination and operation of production factors including land, labour and capital. In this age of science and technology, success in business requires ability to harness scientific and technical knowledge. It involves having a personal command and clear hold on the technological, commercial and human aspects of business which become interwoven into successful progress in business.

The idea that managers are born not made is erroneous and is dying. The feeling that technical and commercial competence alone can see you through does not hold either. People through the ages realized that it's possible to develop managerial skills through training.

This course is designed to provide essential skills needed in farm business.

### **What You will Learn in this Course**

This course guide tells you briefly which is a two credit units course. What to expect as you read through AEC 308; Principles of farm management, it is a two credit unit's course. The course is the first that a student of agricultural economics will offer under farm management. This introduces students to the essentials of farm management. After the successful completion of this course, students will be introduced to more advance aspect of farm management.

Principles of farm management are presented under five modules; Module 1 discussed the meaning, principles and functions of farm management. A proper understanding of the nature of farm management is very essential in

any successful farm business. Another important aspect of this module is the principles of farm management, which are the fundamental laws on which management is built. Also discussed were functions of farm manager.

Module two discussed the common concepts and tools in farm management. These concepts and tools discussed include: law of diminishing returns, substitution, opportunity cost, farm valuation and depreciation etc. The understanding of these concepts and tools by farm manager are very important to the smooth running of any farm business. Farm input resources which include land, labour, capital and entrepreneur form the bulk of our discussion in module three. Proper understanding of these resources is very essential, as no production can take place without them.

Entrepreneur which forms the basis for this course is further elaborated in module four. The various forms of business organization are discussed. They include single proprietorship, partnership, cooperatives and corporate business. The last module (five) explains how to properly record financial transactions on the farm and also calculate profit in order to assess the progress of the farm.

### **Course Aims**

The overall aim of this course is to explain how to effectively manage farm businesses in order to make high profits.

### **Course Objectives**

In addition to the overall aim, this course is set to achieve some objectives. After going through this course, you should be able to:

- Define farm management
- Explain the principles and functions of farm management
- List the special characteristic of agriculture that affect farm management decisions and proffer solutions to them
- Describe some of the common concepts and tools used in farm management.
- Determine depreciation charge for any farm asset
- Explain the meaning, list the characteristics and determine the importance of farm input resources-land, labour, capital and entrepreneur.

- Identify the type of farm business organization and list their characteristics, advantages and disadvantages.
- Determine the importance of keeping farm records and accounts
- Prepare balance sheet and profit and loss accounts for any given farm enterprise
- Calculate and explain the implications of the common financial ratios to farm management.

### **Working through the Course**

AEC 308: **Principles of Farm Management** is a two (2) credit load course. As a two credit load, it is expected that the lecture hours will be eight (8). In addition to eight hours of lectures with the course facilitator, tutorial classes will also be organized for students to discuss the technical areas of this course. During the first reading, you are expected to spend a maximum of two (2) hours on each unit of this course. During the period of two (2) hours, you are expected to read through the text of the unit and also answer the self assessment exercises and questions. In addition to tutorial classes, I would advice that you form discussion group with your mates to discuss some of these questions especially those involving calculations. Discussion group of between three to five people will be adequate.

### **Course Materials**

You will be provided with the following materials for this course:

- Course Guide

The material you are reading now is called course guide which introduced you to this course.

- Study Guide

The textbook prepared for this course by National Open University of Nigeria is called study guide. You will be given a copy of the book for your personal use.

- Textbooks

At the end of each unit, there is a list of recommended textbooks which though are not compulsory for you to acquire or read, but are necessary as supplements to the course materials.

- Other Materials

In addition to above materials, it is very essential for you to buy calculator. It will assist you in the areas that require calculations.

## Study Units

The following are the study units arranged in modules as contained in this course.

### **Module 1** The Meaning, Principles and Functions of Farm Management

- Unit 1 Nature and Scope of Farm Management
- Unit 2 Basic Principles of Farm Management
- Unit 3 Special Characteristic of Agriculture
- Unit 4 The Decision Making Functions of Farm Management

### **Module 2** The Common Concepts and Tools in Farm Management

- Unit 1 Economic Principles and Farm Management
- Unit 2 Farm Cost
- Unit 3 Valuation and Depreciation of Farm Assets
- Unit 4 Literate versus Illiterate Farmers in Farm Management

### **Module 3** Farm Inputs Management

- Unit 1 Land
- Unit 2 Capital
- Unit 3 Labour
- Unit 4 Entrepreneurship

### **Module 4** Forms of Business Ownership

- Unit 1 Single proprietorship
- Unit 2 Partnership
- Unit 3 Corporate or Limited Liability Company
- Unit 4 Cooperative Societies



## **Module 5** Farm Records and Accounting

Unit 1	Concept of Farm Records and Accounting
Unit 2	Farm Record Designs
Unit 3	Benefit-Cost Analysis of Agricultural Projects
Unit 4	Financial Statements

Unit 1 in the material discusses the nature and scope of farm management. The areas covered in the unit include: - the meaning, nature and scope of farm management. Unit 2 gives the general principles of management as well as the basic principles of farm management. Unit3 gives the meaning of risks and uncertainties. Also discussed are the types of risks that affect farm management and how risks can be effectively managed in agriculture. The last unit of the first module (unit4) discussed the types of farm management decisions and the functions of farm manager.

Unit1 which is the first under module 2 discussed economic principles as it relates to farm management. The economic principles discussed include:- diminishing returns, substitution, opportunity cost, diversification and specialization. In unit2, you will study the meaning of cost, types of cost and implications of costs in farm management. In unit3, you will also learn the various methods of estimating depreciation charges. Unit4 which is the last in this module discussed the difference between substance and commercial agriculture.

In unit 1 of module 3, you will be exposed to the meaning and characteristics of land, sources of land and management of land. Unit2 discussed capital resources. The areas covered include: - meaning and characteristics of capital and sources of capital for agricultural production. In unit3, you will learn about the meaning of labour, characteristics of labour, sources of labour and factors that affect the efficiency of labour. The last unit of this module (unit 4) presents information on the meaning, characteristics and importance of entrepreneur.

Module 4 which comprises of unit1; single proprietorship, unit 2: partnership, unit 3; corporate organization and unit4; cooperative societies, discussed the meaning, features, advantages and disadvantages of these forms of business ownership.

In unit1of module 5, you will learn about the meaning of farm records and farm accounts, types of farm accounts and the advantages of keeping farm records and accounts. Unit 2 discussed the various designs of farm records

available for crop farmer, poultry farmer and cattle farmer. In unit3, you will learn about the benefit-cost analysis of agricultural projects. The final unit in this module (unit4) presents information on the meaning of assets and liabilities, sample of balance sheet account, financial ratios and profit and loss account.

### **Text Books and References**

As earlier discussed, AEC 308 is an introductory course to farm management. For detailed information about the areas covered in this course, you are advice to consult more recent editions of the following recommended books:

Abbott J.C. and J.P. Makeham (1980). *Agricultural Economics and Marketing in the tropics*. London. Longman.

Adegeye A.J. and J.S. Dittoh (1985). *Essentials of Agricultural Economics*. Ibadan. Impact publishers Nig. Ltd.

Castle N.E. and H.M. Becker (1987). *Farm Business Management*. New York. Macmillan.

Upton M. (1993). *Farm Management in Africa*. London Oxford University Press.

Uptom M. and Q.B.O. Anthonio (1981). *Farming As a Business*. London: Oxford University Press.

### **Assessment**

There are two components of assessment for this course:

- Tutor-Marked Assignment (TMA)
- End of course examination.

### **Tutor-Marked Assignment**

The TMA is the continuous assessment component of this course. It accounts for 30 percent of the total score. You will be given four (4) TMAs to answer. At least three of them must be answered before you are allowed to sit for the end of course examination. The TMAs would be given to you by your facilitator and returned to him or her after you have done the assignment.

## Final Examination and Grading

This examination concludes the assessment for the course. It constitutes 70 percent of the whole course. You will be informed of the time for the examination through your study centre manager.

## Summary

AEC 308: Principles of Farm Management is designed to provide background information and practical experiences on how to successfully form and manage a farm business. By the time you complete studying this course, you will be able to answer the following type of questions:

- What is farm management?
- State the principles of farm management
- What are the functions of farm manger?
- Give the characteristics of agriculture that affect management decisions and suggest solutions to them.
- Explain the following economic concepts and tools as they relate to farm management:
  - Law of diminishing returns
  - Opportunity cost
  - Substitution
  - Diversification and specialization
  - Depreciation of farm assets
- Define land, capital and labour and state their characteristics.
- Give the meaning and characteristics of the following forms of business organization:
  - Single proprietorship;
  - Partnership;
  - Corporate; and
  - Cooperative societies.
- List the advantages and disadvantages of the following forms of business ownership:
  - Single proprietorship
  - Partnership
  - Corporate organization
  - Cooperative society
  - Give the advantages of keeping farm records and accounts



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**MODULE 1      THE MEANING, PRINCIPLES AND  
FUNCTIONS OF FARM MANAGEMENT**

- Unit 1      The Nature and Scope of Farm Management
- Unit 2      Basic Principles of Farm Management
- Unit 3      Special Characteristics of Agriculture that Affect Farm  
Management
- Unit 4      The Decision Making Functions of Farm Management

## **UNIT 1 NATURE AND SCOPE OF FARM MANAGEMENT**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 The Meaning of Farm Management
  - 3.2 Nature of Farm Management
  - 3.3 The Scope of Farm Management
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

Agriculture is regarded as the art and science of cultivating crops, raising livestock, provision of raw materials for agro – allied industries and marketing of agricultural produce for man's use. There are many branches of agriculture which among others include: Agricultural Economics, Crop Science, Soil Science, Animal Science, Fishery, Forestry and Agricultural Engineering.

Agricultural Economics involves the application of economic principles in agriculture. One of the important branches of Agricultural Economics is Farm Management. This unit examines the meaning and nature of Farm Management. In addition, the unit also describes the scope of Farm Management.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define Farm Management
- state the relationship between Agricultural Economics and Farm Management
- identify the Nature of Farm Management
- describe the Scope of Farm Management.



### **3.0 MAIN CONTENT**

#### **3.1 The Meaning of Farm Management**

Generally speaking, management is the ability of some people to compel economic progress through forceful direction and co-ordination of other people's efforts. When applied to farm business, management could be seen as a practical undertaking of the farm business with respect of how to put the crop and livestock husbandry to work on the farm as a means of obtaining high profit.

Farm Management is a science, which deals with proper combination and operation of production factors including land, labour and capital. In this age of science and technology, success in business requires ability to harness scientific and technical knowledge. It involves having a personal command and clear hold on the technological, commercial and human aspects of business, which become interwoven into successful progress in business.

The idea that managers are born not made is erroneous and is dying. The feeling that technical and commercial competence alone can see you through does not hold either; People through ages realized that it is possible to develop managerial skills through training.

Most people planning to go into the farm business probably think in terms of how much profit they can make in the shortest possible time. However, the way and manner profits are arrived at are very much dependent on a good understanding of what a business really entails. A business may be defined as any activity which involves the production, selling or trading of needed products and services. When such activity revolves around a farm, it is a farm business.

A farmer needs to know not only how to cultivate his crops and tend his livestock, but also how to manage his farm. Many farms consist of different sections, each devoted to the production of one kind of crop or livestock. These sections of the farm are known as enterprises. Every farmer must face the management problem of the enterprises. The importance of farm management can manifest itself in various ways, like detecting and finding solutions to management problems of deciding which enterprises to have, how much to produce in each enterprise and what method to use.

#### **3.2 Nature of Farm Management**

1. Every farmer must know and be able to do all the practical jobs connected with farming enterprises. For this practical

knowledge, there is no substitute. This explains the fact that good Farm Management is often considered as an art rather than a science and this explain why some farmers fail while others succeed.

For farmers to succeed they must also know the scientific principle of crops and livestock production particularly in the area in which the farming is to be practiced and also the soil type, disease, weather and the season could be studied or obtained from an extension worker in the area.

It so demands that farmers must know and use the basic business principles in accordance with which the common farm practices and scientific principles should be applied.

2. Farm Management is also concerned with effective employment of socially acceptable guidelines for all levels of organization. In policy formulations and achieving results, relevant facts must be considered. It must at all times try to attain optimum level of effectiveness and economy of operations. To do this, human satisfaction, welfare package and morale boosting must be promoted. Farm Management responsibility is a continuous and living activity which must not be replaced by routines or operational techniques meant for lower level operatives in the absence of the manager. No matter how large an organisation is, the management process must be seen as a unified process in which all the parts are inter-related and working towards a single purpose or set of objectives. The management process is based on systematic diagnosis of the problem, finding the facts, assessing and interpreting the findings, making decisions, giving instructions, ensuring execution and checking the results. Farm Management performance is judged by the achievement of purpose or objectives, effectiveness of operations and most important, the contentment of the farm workers.
3. Many people considered farming a poor man's occupation or business. Many educated youth will not like to remain in the rural areas to take up farming as their major occupation. These people do not realize the great importance of farming. It should be noted that everybody from the highest down to the beggars on the street depend on farmers for his food. For the country to develop and move out of poverty level the participation of every citizen in farming business is required.

### **3.3 The Scope of Farm Management**

The scope of Farm Management is as wide as the scope of agricultural economics itself, because there is hardly any aspect of agricultural economics that is not relevant to Farm Management.

The broad scope of Farm Management could be viewed from its broad functions which include: planning, organizing, directing, implementing, control and risk management. In order to perform these functions effectively, Farm Management involves the study of the problems of production – which is a collective activity and an attempt of man to satisfy his wants, distribution – which is the process of transferring goods from the producer to the consumer, consumption – which is the satisfying of wants through the use of goods and services and exchange which concerns the attempts made by man to exchange whatever he produces for the goods and services of other people.

Other areas of Farm Management include the study of financial management. This involves keeping financial records, raising funds for farm businesses and how to make careful use of the fund. Besides, it includes the study of the marketing of agricultural products, the study of farm inputs so as to ensure proper co-ordination of land, labour and capital. The right quantities of these resources needed on the farm are also studied.

In general, since the ultimate goal of studying Farm Management is to make maximum profit, the study of Farm Management rests on a broad formation of the study of human nature and its most fundamental propositions that is applicable to all conditions of mankind.

### **SELF ASSESSMENT EXERCISE**

1. Differentiate between agriculture, agricultural economics and Farm Management.
2. Define the following terms:
  - (i) Management
  - (ii) Enterprises
  - (iii) Business
3. Is Farm Management a science or an art?

### **4.0 CONCLUSION**

In this unit, we have discussed the meaning, nature and scope of Farm Management. From these discussions, it can be concluded that the main objective of Farm Management is to ensure proper combination and operation of production resources to bring about a maximum and continuous return to the most elementary unit of farming.

### **5.0 SUMMARY**

In this unit we have learnt that:

- Farm Management is a branch of Agricultural Economics and Agricultural Economics is also a branch of Agriculture.
- Farm Management embraces the proper co-ordination of both human and material resources on the farm as a means of maximizing the farmer's net farm income.
- Farm Management is seen as both an art as well as science.
- The scope of Farm Management is as wide as that of Agricultural Economics. It includes: production, distribution, consumption and exchange of farm products.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. (a) What is Farm Management?  
(b) Describe the nature of Farm Management.
2. Describe the scope of Farm Management.

## **7.0 REFERENCES/FURTHER READINGS**

Akinwumi J. A. (1981). *Business Management*. Synoptic Lecture Notes.

Ayinde A. T. Abdul-Azeez A. and Adebayo R.O (1999). *Agricultural Economics and Statistics*. Ado – Ekiti. Adebayo Publishing Nigeria Ltd.

Castle, N.E. and Becker H.M. (1967). *Farm Management*. New York. Macmillan Pub.

Heady, E.O. and Jenson H.R. (1984). *Farm Management Economics*. Englewood Cliffs. Prentice Hall Inc.

Upton M. (1993). *Farm Management in Africa*. London. Oxford University Press.

## **UNIT 2 BASIC PRINCIPLES OF FARM MANAGEMENT**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Definition of Principles
  - 3.2 The General Principles of Management
  - 3.3 Basic Principles of Farm Management

- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

## **1.0 INTRODUCTION**

In unit 1, we discussed the nature and scope of Farm Management. Like other business enterprises, the ultimate goal of Farm Management is profit making through efficient allocation and utilization of farm resources. Farm Management was also viewed as an art as well as a science.

The scope of Farm Management revealed that the study of Farm Management involved all aspects of human endeavour. There is no area of agricultural economics that is not relevant to Farm Management. The study of production, distribution, consumption, and exchange are all essential in the study of Farm Management. This unit is devoted to the study of the principles of Farm Management.

## **2.0 OBJECTIVES**

By the end of unit 2, you should be able to:

- define Principle
- list and explain ten (10) general Principle of Management
- identify and explain four (4) basic Principles of Farm Management.

## **3.0 MAIN CONTENT**

### **3.1 Definition of Principles**

A principle is a fundamental truth, the basis of reasoning, the primary element or general law. The principles of Farm Management represent the fundamental laws on which Farm Management practices is built. Principles must be general in coverage and applicable to diverse sizes and composition of the farm enterprises. Farm Management principles stand out and provide a foundation for effective practice.

### **3.2 The General Principles of Management**

The general principles of management must be distinguished from the methods or procedures for achieving the goals. They relate to the primary purpose of an enterprise which is to provide goods and services which are wanted by consumers, employing the most economical and convenient methods.

Principles of management are only guidelines and that require great skill in using and adapting them to particular circumstances. There are fourteen (14) principles given and elaborated by Henri Fayol as follows:

**a. Division of Work**

Specialization, whether by workers or farm manager is necessary to provide the required knowledge and expertise. Farm manager can train farm workers to specialize in the various fields of agriculture.

**b. Authority and Responsibility**

Authority may be formal, conferred as a result of position in the organizational hierarchy or personal, the result of personal characteristics. Ideally, it should be both.

Responsibility must go with and match authority. The purpose of authority is to direct activity in the right direction, sanctions or punishments must be available to be applied to those who won't conform.

**c. Discipline**

This may arise from formal or unwritten agreements between management and workers as to what is proper conduct or it may be imposed on workers solely by management.

**d. Unity of Command**

Each worker must have one boss from whom he receives orders: Departmental responsibility must be very carefully set out so that there are no overlapping of authority.

**e. Unity of Direction**

There can be only one head of the organisation whose job is to see that all efforts are directed to the same overall goals.

**f. Subordination of Individual Interest to General Interest**

At the individual level, the employer or manager must submerge his personal interests or leave them behind at the workplace door. In the case of sections and departments, group interests and aims must be subordinated or suppressed for the common goal.

**g. Remuneration of Personnel**

It must be fair and satisfy the employer as a reasonable cost for services rendered and the employee as a means of livelihood and return for effort. Time rates, job rates, piecework and bonus schemes are all admissible as appropriate.

**h. Centralization**

The degree of centralization would however, vary according to circumstances and the abilities of the people concerned.

**i. The Scalar Chain**

This is the line of authority from superior to subordinate, from the very top to the bottom of the business. In each aspect of the business, the chain must be unbroken i.e. at each level, a man must have an immediate boss, who himself has a boss and so on up to the managing director. The scalar chain is the channel for authority to communicate and implements decisions.

**j. Order**

A place for everything and everything in its place. This applies to materials layout and human or social order. Social order needs a careful balance of requirements and resources.

**k. Equity**

Fairness, kindness and justice to all, must not only be done but be seen to be done.

**l. Stability of Tenure of Personnel**

As much as possible, a firm should provide a career structure so that its manager stay and progress within the firm. Outsiders may at times have to be brought in, but there must be a good reason for doing so.

**m. Initiative**

Encouragement of initiative promotes zeal and energy. Its use, must however, be within the limits of respect for authority and discipline.

**n. Espirit de Corp**

This is the last of the principles and one which must permeate all others. It is described as harmony among all members of the organisation. The all too frequent management practices of divide and rule is roundly condemned.

### **3.3 Basic Principles of Farm Management**

All the general principles enumerated above are relevant to Farm Management and can easily be related to the basic principles given below:

- **Planning and Control**

Planning and control are important tools in Farm Management. They provide the administrative aspect of the management. The essential steps in planning and control involve setting of goals and objectives, laying down of responsibilities for specific sections, determining or setting appropriate standard of performance through systematic analysis and assessment of the relevant facts; then ensuring effectiveness by continuously comparing the achievements with the set goals. Work specialization, simplification and standardization all help to make the routine effective.

- **Organisation**

Organisation involves defining individual responsibilities as well as inter-relationships between sections. A large farm business establishment involving many enterprises requires subdivision into appropriate sections with specialized related functions. As the organisation grows larger, the individual supervisor may become overloaded. The need then arises for the delegation of the part of the responsibilities to lower level supervisors. Arrangement must then be made to ensure effective co-ordination. There must be clear lines of responsibility linking the farm Manager with various decision making or execution centres; each supervisor must be responsible for a limited number of subordinates in inter-related activities. Functional sections must be so integrated as to avoid impairing the clear lines of responsibility and command. Delegation of responsibility does not excuse the superior officer from being accountable for any shortcoming. No good farm manager will relax after delegating authority. At least occasional checks are carried out to pick up slackness or deviation from instructions.

- **Co-ordination**



There must be specific responsibility for deliberate continuous co-ordination with laid down procedures. While linking up various aspects of the enterprise, management must promote personal and social satisfaction of all workers within the establishment. Group satisfaction must be sought over and above individual satisfaction and since each individual has varying external influences, it is very difficult to attain this group satisfaction while completely satisfying each individual. Regular contact and exchange of ideas ensures that all concerned are in consonance with the management. There is unified command and no one sees himself as slave to a boss. The set of instructions is initially developed through consultation with various levels of operators and it is best to allow people to understand why instructions are given. A clear understanding of the impact of each person's action or inaction will gear him up towards his responsibility. These instructions must follow clear lines of responsibility and the structural setting in the organisation.

- **Motivation**

The morale is kept high by keeping all workers informed about the activities, the successes and drawbacks, consulting them before new regulations are put forward, fostering the sense of responsibility, allowing them to develop their own capabilities within the overall goals of the organisation. Farm manager must give workers room to contribute more than mere performance of their allotted routine duties. There must be security of the job and confidence that one is not simply being used. There must be fairness and objectivity in dealing with workers. Discipline must be maintained and accepted by subordinates. When there is a sense of responsibility, there will be no need to gear people to action. Continuous review of codes of conduct helps to keep them in line and updated. The personality of the farm manager to a great extent determines the level of moral and discipline in the organisation.

## **SELF ASSESSMENT EXERCISE 2**

- 1) Explain the meaning of the term 'Principle'.
- 2) List all the fourteen (14) principles of management as presented by Henri Fayol.

## **4.0 CONCLUSION**

You have noted the fundamental laws guiding the operations of Farm Management. It can be concluded from our discussions that any farm manager that failed to strictly adhere to guiding principles will find it difficult if not impossible to achieve his goals.

## 5.0 SUMMARY

In this unit, you have studied the basic principles of Farm Management. In this regard you have learnt that:

1. Principle is a fundamental truth or general law.
2. Henri Fayol presented fourteen (14) generally acceptable principles of management.
3. These fourteen (14) principles were condensed into four (4) principles of Farm Management.
4. The four (4) basic principles of Farm Management include: planning and control, organisation, co-ordination and motivation.

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1) List any ten (10) general principles of management and explain any five (5) of them.
- 2) Describe any four (4) basic principles guiding the effective operation of Farm Management.
- 3) Explain the meaning of the following terms used in Farm Management:
  - a) *Espirit de corp*
  - b) *Scalar chain*
  - c) *Order*
  - d) *Equity*
  - e) *Unity of direction*

## 7.0 REFERENCES/FURTHER READINGS

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## **UNIT 3      SPECIAL      CHARACTERISTICS      OF AGRICULTURE      THAT      AFFECT MANAGEMENT**

### **CONTENTS**

- 1.0 Introduction
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### **1.0 INTRODUCTION**

In unit 2, you read about the principles guiding the operation of a successful farm business. Some of these principles include: planning and control, organizing, co-ordinating and motivation. This unit will be devoted to discussing the special characteristics of agriculture that affect Farm Management.

### **2.0 OBJECTIVES**

By the end of the unit, you should be able to:

- define uncertainty
- differentiate between risk and uncertainty
- explain five (5) major types of risks in agriculture that affect management decisions
- identify and explain five (5) possible solutions to reduce the effect of risks on the farm.

### **3.0 MAIN CONTENT**

### **3.1 Meaning of Risk and Uncertainty**

#### **3.1.1 Uncertainty**

This is a situation where an action has got a set of possible outcomes, the probability of which is completely unknown. For example, no one can assign probability to how many times he will fall sick within a year. Farmers normally calculate his labour requirements on the ground that his workers will be healthy throughout the year and that each labour will supply at least eight (8) working hours per day. Similarly, no one can precisely predict when he is going to die. Farm manager may project his activity for the whole year and he may not reach the end of that year before he dies. Any situation where one cannot predict what can happen is normally regarded as uncertain situation.

#### **3.1.2 Risk**

Risk on the other hand is a situation where each action leads to one of a set of possible outcomes, each outcome occurring with a known probability.

Most economic activities assume that the future can be predicted with some accuracy. This is not usually true most especially for agricultural production. In fact, business is face with risks and uncertainties which have some effects on management decisions.

### **3.2 Types of Risk That Affect Farm Management**

There are many features of agricultural production which make farm management operations very difficult unlike industrial enterprises. This is due in most cases to the special characteristics of agricultural enterprises. Some of these characteristics include:

#### **i. Production Uncertainty**

Farmers practice or operate in an environment which in most cases is beyond their control. Varying weather conditions, crop failure and animal diseases prevent timely execution of Farm Management.

Production uncertainty can manifest itself in various ways. For instance, under rain fed agriculture, the yield of crops will depend upon the amount of rainfall recorded at the period. Total crop failure can result if rain does not fall at all or if it does not fall at the right time, on the other hand, excessive rainfall can cause erosion and leaching of plant nutrients. The vagaries of weather may also affect harvesting and

drying operations. There may be outbreak of disease which could wipeout a whole livestock population on a farm. A good example is the outbreak of avian influenza in Nigeria. All these have serious implications on Farm Management decisions.

## **ii. Price Changes**

The inputs which the farmer uses and the output which he produces are both subjected to wide fluctuations in prices. Input prices really go down but the prices of output can easily go down. Seasons and overproduction affect the prices of output. Though, price fluctuations occur in other enterprises, they are more difficult to deal with in farm planning. For instance, increase in wages cannot easily be absorbed in agriculture since farmers cannot easily increase his price to match the new increase in costs. This is in contrast to a situation where the price of petrol increase by 50 percent, the industrial sector will increase the price of their products immediately to accommodate these additional costs.

## **iii. Government Actions and Policies**

Various Governments take actions, the effects of which are supposed to be felt in farming. Usually, the farmer may be unaware of what Government actions will be before a production season. There are policies like guaranteed minimum prices, land use decree, agricultural credit guaranteed scheme, the abolition of commodity marketing boards, e.t.c. All these policies are important and management decisions must be taken within this framework.

## **iv. Actions of other People**

Agriculture is practiced by a large proportion of Nigerians. Most of them operate on small holdings. These farms are scattered and two to five farmers may have two hectares of farm land in the same area. If a farmer controls pests in his farm or control diseases in his poultry farm while others do not, then such a farmer is wasting his time, energy and money as the pests or diseases from the uncontrolled farms would spread to the farm that had been treated. The actions of one farmer will therefore affect the farms of others. Actions of credit institutions with regard to the amount of loan granted as well as the timely release of the loan may also have effect on decisions of farmers; effect of which the farmer may not envisage.

## **v. Health of Farm Workers**

Another important factor that affect management of farm business is the health condition of farm workers. The efficiency of the farm workers is closely related to their state of health. At the beginning of planting season farm manager will calculate the labour requirement for each month based on the condition that the farm workers will be healthy throughout the year. Death of farm workers and diseases like guinea worm can take workers completely out of farm. Sickness and death of farm workers can affect the achievement of labour objectives for the year.

#### **vi. Other Risks and Uncertainties**

The greatest problems facing farmers, whether new or old, are the problems of risks and uncertainties. Apart from the problem of production uncertainty discussed earlier, there are others, for example water shortage, power failure, change in technology, etc. which may complicate the farmer's decision process. Due to frequent vandalization of electric cables in many parts of Nigeria, electricity supply is no longer reliable. Any farm business that depend on electricity supply may run into serious problem as the generating set that was designed only to assist public power supply may eventually be the only source of power supply. Similarly, inventions of new technology and methods of farming may lead to obsolescence of production techniques and farm equipment. This may have serious effect on the farm plan and management decisions.

### **3.3 Management of Risks in Agriculture**

The following methods can be used to reduce the effect of risks and uncertainties in farming:

#### **i. Flexibility**

Flexibility means planning in such a way as to be able to shift interests when favourable conditions or favourable opportunities arise. It will not be advisable to have too rigid methods of production. Farmers normally operate in a dynamic environment and information about improvements in production methods often become available to them. Small changes in prices of resources may need a re-combination of resources which will allow the farmer to take advantages of greater profit.

Some examples of flexibility in farm organisation and production methods include:

The proportion of fixed to variable cost on a farm enterprise can influence the ease with which a farmer moves out of a particular enterprise. The higher the proportion of fixed costs, the higher the loss when conditions become unfavourable.

Businessmen who are uncertain of longtime investment could invest in enterprises that yield results in short time. An example of this is grain production as opposed to fruit tree.

## **ii. Diversification**

Diversification is here defined as the involvement of farmer on more than one enterprise at the same time. The basis of using diversification as a strategy against risk is that the yields or prices of all chosen enterprises are not likely to be adversely affected at the same time. This combination of more than one enterprise can reduce loss of annual incomes caused by damage to one of them.

Enterprises with the lowest correlation of net income can be combined. For instance, to reduce variability of income resulting from crop production, crops like yam and cassava should not be combined, since both crops require almost the same resources. Incomes from these two enterprises are likely to be affected by the same factors. On the other hand, the income from poultry is not likely to be related to yam production or even to maize production, except if maize grown is fed to livestock. In order, to maintain a stable income therefore, crops and livestock should be combined.

## **iii. Contracts**

One way of diverting risk to others is by the use of contracts. Under this strategy, a buyer assures a seller a fixed price in advance and goods are delivered to the buyer at a future date. In this case, price uncertainty is transferred to the buyer. Apart from taking care of price fluctuations, it also assures the seller a market outlet.

Farmers can make arrangements for crops and livestock to be produced and for inputs to be used during a production season. If prices fall, the farmer will get the higher contracted prices for what he produces. If however, prices increase, the farmer loses, but then, that is the cost of risk. It however, ensures a relatively stable income. If the farmer is certain that prices of output will increase, then he should only contract for what he is to buy and not what he is to sell.

#### **iv. Insurance**

Another way of transferring risk to others is through insurance. Insurance may be defined as the substitution of a certain small cost for the possibility of a large but uncertain loss. Insurance may be used to meet risks, such as the death of the businessman (life insurance), fire or accidents (property insurance) or crop loss (crop insurance).

Insurance is a cost. The cost is referred to as a premium payment which must be paid by the insurer before benefits can be collected. Insurance is made possible because many people wish to avert risk and pay the premium but fewer people actually claim the benefits. There may be need to insure the farmer against death, accident, fire outbreak and other hazards. This is why the Federal Government of Nigeria established National Agricultural Insurance Company (NAIC), to safeguard farmers against crop failure, disease outbreak or poor economic conditions.

#### **v. Inventory Management**

A good farm manager must be able to watch movement of prices. If prices of his farm output are likely to rise, for instance, he should be able to stock his warehouse and when prices are likely to fall, he should stock less. Similarly, the farm manager can watch out for the movement of prices for his farm inputs.

#### **vi. Guaranteed Minimum Price**

There are many programmes put in place by Government that are aimed at helping the farmers. One of such programmes is buying the farmers' crops at an agreed minimum price, if the farmer cannot sell the crops at the current market price. For this to be effective, the minimum price must be enough to cover the cost of production of such crops or livestock and allow for normal profit.

### **SELF ASSESSMENT EXERCISE**

1. Explain how the following problems can affect Farm Management decisions:
  - a) Flood
  - b) Erosion
  - c) Drought
  - d) Outbreak of livestock disease
  - e) Health of farm workers
  - f) Inconsistent supply of electricity
  - g) Pests and diseases in crops.



## 4.0 CONCLUSION

In unit 3, we have discussed the special characteristics of agriculture that affect farm management decisions. From our discussions, it was concluded that prices of farm output cannot easily be adjusted like industrial products to meet unforeseen circumstances. Therefore, farmers should take precautions to reduce the level of risks and uncertainties on the farm.

## 5.0 SUMMARY

In this unit, we have learnt that:

- When you take risk, you can predict the sets of possible outcomes.
- When operating under uncertainty, you cannot predict the outcome.
- Farm business operates under risk and uncertainties.
- Some of the risks in farm business that affect Farm Management decisions include: production uncertainty, price changes, Government actions and policies, action of other people, health of farm workers and other risks and uncertainties.
- To avert risk and uncertainty:
  - Be flexible in plans
  - Diversify enterprises
  - Transfer risk to others through contract and insurance
  - Study the other party to avoid being cheated
  - Seek knowledge.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. a. Define:
  - i. Risk
  - ii. Uncertainty
- b. Identify and explain any five (5) types of risks associated with agriculture that affect Farm Management decisions.
2. a. Differentiate between risk and uncertainty.
- b. Identify and explain any five (5) possible ways risks can be minimized in farm business.

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#### **UNIT 4 THE DECISION MAKING FUNCTIONS OF FARM MANAGER**

## **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 The Concept of Decision Making
  - 3.2 Process of Decision Making
  - 3.3 Types of Farm Management Decisions
  - 3.4 Functions of Farm Manager
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
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### **1.0 INTRODUCTION**

The last unit discussed the special characteristics of agriculture that affect management. In discussing the unit, we differentiated risk from uncertainty. We also discussed the various types of risks associated with farm business and how we can manage these risks so as to reduce their effects on farmers. In this unit, we shall discuss the decision making functions of farm managers.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- explain the concept of decision making
- identify the essential steps in decision making process
- enumerate at least five decisions or problems confronting farmers on the farm
- state at least five functions of farm manager.

### **3.0 MAIN CONTENT**

#### **3.1 The Concepts of Decision Making**

Decision making is the process of thought or deliberation that results in a choice. This definition implies that decision making involves making a choice from possible alternative resources. Like in other businesses, decision making in farm business is one of the most important activities that a Farm Manager has to carry out. It is important that Farm Manager should follow a gradual and sequential process in taking decisions. A wrong decision at a particular stage in production process can lead to

total collapse of the farm business. The success of any farm manager will depend to a large extent on the right type of decision he made.

### 3.2 The Process of Decision Making

There are seven essential steps that must be followed when making decision in Farm Management:

- i. **Identify the Problem:** A problem is identified as soon as the farm manager discovered some deviations from the past experience. Once the farm manager noticed any strange happenings or unusual occurrence, then a problem is already identified.
- ii. **Define the Problem:** Definition of problem involved locating the root course of the problem identified. This requires establishing what is responsible for the problem identified.
- iii. **Suggest Solutions:** After establishing the course of the problem, you can now suggest some possible solutions to it.
- iv. **Analyse the Suggested Solutions:** Analysis of the suggested solutions involves getting the implications of each possible solution. This involve getting the cost of each solution, the resources required (both human and material resources) and workability of the solutions.
- v. **Select the Best Solution:** From the point of view of cost, human resources, material resources and workability of the solutions, the farm manager can now choose the best alternative solution.
- vi. **Implement Decision:** The next step after choosing the best alternative solution is to put the chosen solution into action.
- vii. **Evaluation:** This is the last step in the process of decision making. It involves comparing the result or performance of your farming business at the end of the decision to the time before the decision was taken.

### 3.3 Types of Farm Management Decisions

There are many decisions and/or problems confronting farmers on the farm. The solutions to these problems will determine to a large extent whether a farmer or farm manager is going to be successful or not. The types of problems facing Farm Management include the following:

- (a) **What Size of Farm to Operate?** The solutions to this will depend on many factors like the type of crop cultivated or type of animal reared, the amount of resources available, land tenure system of the area, type of equipment available etc.
- (b) **What Combination of Crops and Livestock to Produce?** The solution to this will depend on whether the farmer wants to go on mixed farming or mixed cropping, it will also depend on the value system of the area and some other factors.
- (c) **What System of Farming should be Followed?** The available system of farming include: mono cropping, mixed cropping, mixed farming. For animal rearing we have – intensive, semi – intensive and extensive systems, etc.
- (d) **What is the most Profitable Method of Production given the available Resources?**
- (e) What kinds of Machinery and Equipment to use and at what level of Production do we substitute Machinery for labour.
- (f) **How much of Family Labour and how much of Paid Labour to use?** This will be determined by the total population of the family and the number that will be available for farming at various period of the year.
- (g) **What are the Appropriate Times to Produce Specific crops or Livestock?** Farmers need to decide whether to produce certain crop or livestock during occasions when they will be highly demanded. For example, poultry farmer can decide to target the sales of his broilers during occasions like: New Year, Easter and Sallah celebrations.
- (h) How much of the crops and livestock to consume at home and how much of these to sell?
- (i) Selling price of the farm products and what are the problems of marketing?
- (j) What are the sources of credit open to a farmer and how can he make proper use of the available credit.

### **3.4 Functions of Farm Manager**

Given the problems and/or decisions faced in Farm Management, the farm manager or management must be prepared to carry out the following functions in agricultural production: planning, forecasting, organizing, co-ordinating, staffing or personnel management, directing and leading, communicating, motivating and supervising.

Which function is most important?

They are all important and emphasis should be laid on different aspects according to need.

### **1. Forecasting**

Once the idea of establishing a farm business is conceived, forecasting begins in term of expected quantities to produce, the price to set, the costs of farm inputs and the likely profits. Projections are also made on the basis of economic indicators such as population, age distribution, levels of income, government plans to increase employment or raise incomes, tastes and preferences.

### **2. Planning**

Forecasting is the beginning of planning which must be done. On the basis of forecasts the farm manager can increase his output. The plan which some people call budget, contain every detail of how much to make, at what price to sell, what profits are expected, the obligations to workers and consumers.

The annual budget is a general statement, but the monthly budgets are more detailed. Planning sorts out who will do what and in planning, all levels of workers must be involved.

### **3. Organizing**

In organizing, responsibilities are defined and lines of authority are laid down. Organisation involves delegating authority and holding specific people responsible for making sure that specific things are done.

### **4. Co-ordinating**

Co-ordination is essential since farm business is segmented into various enterprises each doing its own bit. The work of all the segments must be harmonized so that no section is delayed by lack of appropriate activity in another section. Co-ordinating is done by bringing all head of sections into the picture through communication. General meetings

are held at intervals in which new plan or changes in plans are announced and discussed by the farm manager.

## **5. Motivation**

In order to make the work of co-ordination and controlling easy, farm workers must be properly motivated through humane treatment. As a farm manager, you should always put yourself in the position of farm workers. Take pains to explain what you want them to do. Make the instructions clear and simple. Create the right atmosphere.

Motivation can be achieved in many ways. A simple note of appreciation or praise (commendation) for a good job done will encourage the workers to put more effort in future. Financial incentive provides encouragement for harder work. Individuals may excel if direct payments are made in recognition of their individual performance.

## **6. Staffing**

This is a function carried out by the farm manager. It involves decision on job content, qualification required, training on the job and evaluation of performance in order to recommend for promotion or wage increase.

## **7. Directing and Leading**

It is the duty of farm manager to lead the farm workers in the implementation of the chosen plan. Leadership entails outstanding character that commands the respect of all workers. A good leader must be very knowledgeable, mature in thought and action with balanced judgment and decisions which are generally satisfactory to most farm workers. Leaders must accept responsibility for their actions and must be firm.

## **8. Communication**

Communication is an important aspect of Farm Management. The function of communication involves passing information from the farm manager to the farm workers and the general public. A clear channel of communications must exist between the manager and the farm worker. Instructions must be clearly given and feedback collected. In order to avoid rumours and false information, it is the duty of farm manager to ensure workers confidence by passing direct information to them.

## **9. Control and Supervision**

After planning, the next most crucial function of farm manager has to do with controlling and supervision. For any business to succeed, every stage or activity must be controlled. There is production control, inventory control, cost control, budgetary control and personnel control. The process of controlling involves comparing plan with achievements.

### **SELF ASSESSMENT EXERCISE**

1. Explain what is meant by decision making
2. Explain the role of farm manager in the following areas of decision making:
  - a. Forecasting
  - b. Planning
  - c. Organizing
  - d. Co-ordinating
  - e. Directing

## **4.0 CONCLUSION**

In Unit 4, we have learnt about the decision making functions of farm manager. In conclusion, a farm manager should aim at making the business of what the customer needs his priority and endeavour to provide those things better than has been previously done by other farmers. Any farm business which satisfies this will make profit as a matter of course.

## **5.0 SUMMARY**

In this Unit, we have learnt that:

- Decision making involves making a choice from the various lines of action
- Decision making follows processes in Farm Management, decision making process which involved seven essential steps.
- The steps in decision making process include: identify the problem, define the problem, suggest solutions, analyse those solutions, choose the best solution, implement decision and evaluate result.
- There are many decisions and or problems confronting farm manager. These decisions require that he must have a good understanding of the farm practices relevant to the enterprises he wish to be involved in.
- Farm manager must be ready to draw up both short and long term plan. This would include the objectives of the business, how objectives will be achieved and the stages of business expansion.



- Farm manager must ensure that needed farm inputs – land, buildings, machinery, etc, are available or can be obtained with cash resources at his disposal.
- It is also the duty of farm manager to ensure that there is ready market for the output of the farm business.
- Farm manager performed administrative functions such as – staffing, motivation, communication, etc which are essential for the healthy growth of the business.

## 6.0 TUTOR-MARKED ASSIGNMENT

1.
  - a. Define decision making in farming.
  - b. Enumerate and explain the essential steps in decision making process in farming.
2. What are the decisions facing the following groups of farmers in their farm businesses?
  - a. Grain farmer
  - b. Poultry farmer
3. Identify and explain any six (6) major functions performed by farm manager.

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## MODULE 2 THE COMMON CONCEPTS AND TOOLS IN FARM MANAGEMENT

Unit 1	Economic Principles and Farm Management
Unit 2	Farm Cost
Unit 3	Valuation and Depreciation of Farm Assets
Unit 4	Literate versus Illiterate Farmers in Farm Management

## **UNIT 1 ECONOMIC PRINCIPLES AND FARM MANAGEMENT**

### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	The Law of Diminishing Returns
3.2	The Principles of Substitution
3.3	Opportunity Cost
3.4	Diversification and Specialization
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
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### **1.0 INTRODUCTION**

Remember that you have learnt about the meaning, nature and scope of Farm Management in module 1. We also treated the principles and functions of Farm Management. In this module, you will learn about some common concepts and tools in Farm Management. This unit is specifically devoted to discussing some economic principles as it affect Farm Management.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to explain the following economic principles:

- diminishing returns
- substitution
- opportunity Cost
- diversification and specialization

### **3.0 MAIN CONTENT**

#### **3.1 The Law of Diminishing Returns**

The law of diminishing returns is also known as the law of variable proportions. Diminishing returns is the most observed phenomenon in production for most inputs especially at normal production level.

The law of diminishing returns states that if the quantity of one variable factor is increased by equal amount while the quantity of other factors are kept constant, the corresponding increment to total product (output) will start to increase up to a certain point (the point of inflection) and will continue to decrease from that point. This certain point referred to, is the maximum point on the marginal product curve which coincides with the point of inflexion of the total product curve.

For instance, fertilizer, labour and planting materials are variable inputs that can be combined with fixed input such as land to raise output. As fertilizer application is increased, the total return will increase at first but will eventually decline to a point where no extra return is obtained for extra fertilizer applied.

The principle of diminishing returns is one of the most important concepts in Farm Management; it is the principle that determines the economic level of all production practices. This principle guides the efficient allocation of resources.

As one of the aims of farm business is to make profit, every production process needs to be considered in the framework of costs and returns. The diminishing return principle implies that if fixed cost remain constant, it is only profitable to increase the level of production if only the marginal return is greater than the marginal cost. In other words, it is better to employ additional fertilizer as long as the added return obtained by the employment of additional fertilizer is greater than the additional cost of employing the fertilizer. This is a technical way of saying that it is profitable to spend one naira (N1) for a return of one naira fifty kobo (N1.50k) but not for a return of fifty kobo (50k) only.

### **SELF ASSESSMENT EXERCISE 1**

The table below shows the quantity of maize obtained in response to fertilizer application. At what unit of fertilizer application does diminishing return set in?

<b>UNIT OF FERTILIZER</b>	<b>QUANTITY OF MAIZE</b>	<b>MARGINAL PRODUCT</b>
---------------------------	--------------------------	-------------------------

		<b>T</b>
0	20	-
2	38	9
4	52	7
6	58	3
8	60	1
10	60	0
12	54	-2

**Hint**

The point at which there is no further increase in marginal product, the quantity/unit of fertilizer applied at that point will be the point of diminishing returns.

**3.2 The Principles of Substitution**

The principle of substitution refers to the amount by which product A changes in quantity when product B is increased by one unit while the input remains constant. Farm manager is interested in the optimum combination of products that will enable him maximize net returns. The concept of Marginal Rate of substitution is central to choosing the optimum production combination.

With the introduction of new technologies in agriculture, farmers are exposed to different methods or combination of methods of farming. The major objective behind the principle of substitution is either to maximize output or minimize the cost of production. Farm manager need to decide upon the best possible resource combination to achieve maximum output at a given cost or to minimize the cost of producing a given output.

Examples of resource combinations to achieve maximum output with input use remaining constant include:

- Production of maize and poultry in a given plot of land.
- Production of grain and fruit crop in one hectare of land.
- Production of farm and non – farm products using the same number of labourers. The above examples will show how to produce maximum output where alternative products can be produced from the same resources, subject to certain constraints.

The principle of substitution is also used to find out the least cost combination of resources needed to produce a given output. Examples include:

- Chemical and manual weeding in the production of a given quantity of yam.
- Substituting tractor for hand tools in the production of a given quantity of maize.
- Hay and maize combination for a constant output of milk.
- Combination of grain and hay for a given live weight gain.

The principle of substitution helps in choosing the most profitable combination of two or more resources or products. Thus, farmers are always faced with the decision on whether to employ one factor or the other. Through this, farmers will be able to combine the factors of production in the various proportions that would maximize his net returns.

### 3.3 Opportunity Cost

The concept of opportunity cost is the economists' way of expressing the cost of present benefit in terms of forgone alternatives. The opportunity cost of a Farm Management decision is the amount of money which is given up by choosing one alternative rather than another. Economic resources are scarce and the scarcity necessitates a choice between alternatives. A choice means you have one thing or another. It implies sacrificing one thing in favour of another. If you decide to have more of one thing, then where there is an effective choice, it will be necessary for you to have less of the other. The cost of anything is not the money spent on it; it is the alternative, which was most nearly chosen instead.

If a farmer decides to grow rice instead of maize, the opportunity cost of rice he cultivated is not only the maize which he might have grown instead, but also the market situation. The concept of opportunity cost is of importance to him because it reveals the real cost of his decision to grow the rice.

The application of the concept of opportunity cost to every economic decision helps individual consumer to maximize their satisfaction. The concept of opportunity cost is of importance in Farm Management because it helps farmers in deciding which enterprise to go into, taking into consideration some of the resources available. The concept is also essential for working out efficient farm organisation for efficient utilization of farm resources. The main point of the opportunity cost concept is that alternative investments must be taken into consideration if maximum returns on resources invested are to be obtained.

In Farm Management, for farmers to obtain maximum returns, the money that is given up by choosing one alternative rather than another

must be less than the chosen enterprise. For instance, if the same amounts of resources are available for the production of one hectare of either maize or sorghum and the expected revenue from maize is N1000 while the expected revenue from sorghum is N800. If sorghum is chosen instead of maize, i.e. we forego N1000 in order to obtain N800. Here, the opportunity cost is positive and should be avoided if there is no serious case against the production of maize. On the other hand, the opportunity cost of cultivating maize rather than sorghum is negative i.e. we forego N800 to obtain N1000 and thus a good decision.

### **3.4 Diversification and Specialisation**

Specialization involves the production of one type of product. Farmer may specialize in poultry production only, he may also decide to engage in palm production only etc. By specialisation, the farmer may likely be more efficient in his operations and techniques of the business. However, specialisation is always accompanied with risks because once the business fails; there is no other way of producing other products. Failure can occur as a result of pest and disease outbreak, market situation and some other factors.

Diversification on the other hand involves combination of two or more products or enterprises in one operation. For instance, a farmer can engage in the production of maize, sorghum and poultry at the same time. He may also engage in the production of grain and oil palm plantation, etc. The rule guiding the operation of diversification is that the two enterprises must not be correlated in income. If two farm enterprises require the same resources and are likely to be affected by the same condition, a reduction in the gross margin of one enterprise will imply a similar reduction in the gross margin of the other enterprise. This is a situation of positive correlation. It is therefore, beneficial to diversify into enterprises which have negative correlation coefficient of gross margin. This is necessary to reduce the effect of risk and uncertainty connected with farming. Diversification allows flexibility in the use of resources and lowers income variability.

### **SELF ASSESSMENT EXERCISE 2**

1. Distinguish briefly but clearly between opportunity cost and money cost.
2. Differentiate between marginal cost and marginal returns.

3. Give five (5) examples of resources that can be combined to achieve maximum output with input remaining constant.
4. Give five (5) examples of input resources that can be combined to achieve least cost with output remaining constant.

#### **4.0 CONCLUSION**

In this unit, you have learnt about the economic principles that can be applied to Farm Management. From the various discussions, we have gathered that the sound knowledge of these principles are essential in Farm Management. This is necessary to guide farmers in taking rightful decisions in farm operations.

#### **5.0 SUMMARY**

In this unit we have learnt that:

- The concept of diminishing returns determines the economic level of all production practices.
- The principle of diminishing returns guides in the efficient allocation of resources.
- The principles of substitution helps farmers in deciding on the optimum combination of products that will enable him maximize net revenue.
- The concept of substitution aimed at both maximization of production output as well as minimization of cost of farm inputs.
- The opportunity cost of a Farm Management decision is the amount of money which is given up by choosing one alternative rather than another.
- Specialisation involved the practice of one enterprise while diversification involved the practice of two or more enterprises.
- Farmer will be more efficient in the use of resources under specialisation but it amount to putting all his eggs in one basket.
- Diversification can guide against total failure if enterprises with negative correlation in gross margin are combined.

#### **6.0 TUTOR-MARKED ASSIGNMENT**

- 1a. Define:
  - (i) Law of diminishing returns

- (ii) Marginal rate of substitution.
- b. With examples, show how the two principles can help in Farm Management decisions.
- 2a. Explain the principle of opportunity cost.
- b. How does the principle help in Farm Management decisions?
- 3a. Differentiate between specialisation and diversification of farm enterprises.
- b. Which one of them do you prefer and why?

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## UNIT 2 FARM COST

### CONTENTS



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## **1.0 INTRODUCTION**

In the last unit, we discussed the economic principles that influence Farm Management decisions. Such principles include: diminishing returns, substitution, opportunity cost and specialisation and diversification. In this unit, attempt will be made to define cost, explain the various types of cost and discuss the implications of costs in Farm Management.

## **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define cost
- explain the different type of cost
- calculate the average costs of farm expenses
- classify the different farm expenses into fixed and variable costs
- identify the implications of costs in Farm Management.

## **3.0 MAIN CONTENT**

### **3.1 Meaning of Cost**

Costs or costs of production are payments or expenses made either directly or indirectly to obtain the inputs utilized in production. According to Nweze (2002) cost is a sacrifice that must be made for the purpose of doing or acquiring something. The sacrifice that must be made may be tangible or intangible, objective or subjective and may take many forms such as money, goods, leisure time, income, security, prestige, power or pleasure. Agricultural cost is referred to as the value of agricultural inputs used in the production of agricultural output. That is, the cost of producing a product such as yam, maize, eggs, goats, cattle, etc. It is also known as expenses incurred in producing a particular amount of product in a particular period. Hence, one can talk of the cost of producing 100 tons of yams in a season or 2000 litres of milk per week or 2000 crates of eggs per laying circle.

Cost of production can also be referred to as accounting cost, cost of materials used in the production process such as labour costs, fertilizer costs, feed costs, depreciation costs, maintenance and repair costs, selling and administrative costs, taxes and interest payments on money borrowed.

An agricultural economist view costs of production as embracing a considerable alternative costs or opportunity cost. For instance, if a farmer produces only commodity A and no B, the cost of producing commodity A is the accounting cost plus the foregone return on commodity B known as economic costs. Total cost can be calculated thus:

$$\text{Total Cost (TC)} = \text{Fixed Cost (FC)} + \text{Variable Cost (VC)}$$

### **3.2 Types of Costs**

In considering costs involved in agricultural production, Abbott and Makeham (1980) identified five main farm costs. These are:

- Variable Costs
- Overhead (fixed) Costs
- Financial Costs
- Capital Costs, and
- Personal Costs

#### **3.2.1 Variable Costs**

Variable Costs are expenses which vary in size positively with variation in output level. Variable Cost rises and falls with output and is zero when the farmer is not producing. It is therefore sometimes called direct cost.

Variable costs include: The raw materials, the cost of direct labour, the running expenses of fixed capital such as fuel, ordinary repairs and routine maintenance, insurance on crops and animals, etc.

Variables costs are directly associated with the level of intensity of each activity, but may also determine the yield or level of output of the activity. For instance, the amounts and kinds of fertilizer, seed and cultivation in a crop enterprise, largely determines the crop yield.

Similarly, in an animal enterprise, the level and type of feed and medicines used have a major effect on the productivity of any given type of animal. Therefore, for a farmer to obtain high output on the farm, requires that he must be ready to spend much money on variable cost items.

The reason for identifying the variable costs of a farm business is to give the farmer an idea of the size of the change in terms of cost which will occur if he expands or contracts one or more of the enterprises. Knowing the likely variable costs and gross income, the farmer is in the position to make a quicker decision of the merit or otherwise of making a change in the enterprise.

### **3.2.2 Overhead (Fixed) Costs**

Overhead cost is also known as fixed cost. Fixed costs are costs which do not vary with the level of output. In other words, fixed cost is the same regardless of the level of production. Apart from being fixed, another characteristic of fixed cost is that it must be incurred even when no output is yet forthcoming. Thus, a businessman must erect a factory, office buildings and hire staffs even before the factory starts production.

Abbott and Makeham (1980) identified three types of overhead costs to include: total overhead, operating and activity costs.

#### **i. Total Overhead Costs**

These include the following: essential living expenses of the farmer, wages and food for permanent workers, loan interest and repayments, replacement of capital items such as plants, machinery, buildings, etc, all taxes, repairs to water supply, insurance on employees, travel and other business expenses.

The main advantages of farmer knowing the level of total overhead costs are that: They are unavoidable costs which must be met every year. Secondly, it is used to show the gross margin which must be achieved for all farm activities in the planting season. Lastly, the total gross margin is normally the only source other than additional borrowing from which the overhead cost can be met.

## **ii. Operating Overhead Costs**

According to Abbott and Makeham (1980), operating overhead costs are used in calculating the true profit in an accounting sense. They are overheads associated with the annual business operations of the farm.

The main component of operating costs include: Operator's allowance, depreciation of capital items such as buildings and machines, wages of permanent workers, taxes but not income tax, repairs of water supply, roads, buildings and structures, insurance on buildings, plant, fixed structures, etc, telephone and business expenses.

## **iii. Activity Overhead Costs**

These are costs which will not be incurred if the business is terminated. Examples of such costs include: depreciation on equipment used. Costs under this category are regarded as partly fixed and partly variable. Even though they are classified as fixed costs, the amount to be fixed is determined by the level of operation or use of the equipment.

### **3.2.3 Finance Costs**

These covers the annual interests paid on borrowed money and the repayment made on loans where hired purchases are made. These types of costs are associated with loan repayment and insurance costs lumped together in one sum.

### **3.2.4 Capital Costs**

These costs are usually associated with costs incurred in the process of providing capital assets used in farm production. Examples of these costs include costs on capital project like building, machinery, land purchase, land clearing, water supply, extra livestock and planting of palm trees, rubber, and cocoa or fruit trees.

### **3.2.5 Personal Costs**

Purchased food, clothing, medical expenses, school fees, and family traveling costs are considered as personal costs.

In some cases, some of these items are directly related to the level of output of the farm. For example, an ill or undernourished farmer is not likely to have a high work output and money spent on food or medicine is likely to have a direct effect on total farm output. The minimum total living or personal costs of the farm are normally included in the total overhead. When budgeting for family farm, they are one of the most important and unavoidable items in the total farm costs.

### 3.3 Average and Marginal Costs

#### 3.3.1 Average Cost

Average cost is the total cost of producing an output divided by the number of output units.

$$\text{Average Cost} = \frac{\text{Total Cost}}{\text{Total Product}} = \frac{\text{TC}}{Q}$$

Where:

TC = Total cost and Q = units of output produced

Average Cost is the sum of Average Fixed Cost (AFC) and Average Variable Cost (AVC)

Average Cost = Average Fixed Cost + Average Variable Cost

$$AC = AFC + AVC$$

Average Fixed Cost (AFC) is obtained by dividing Total Fixed Cost (TFC) by the unit of output associated with it.

$$\text{Average Fixed Cost} = \frac{\text{Total Fixed Cost}}{\text{Total Product}} = \frac{\text{TFC}}{Q}$$

Where:

TFC = Total Fixed Cost and Q = units of output.

For example, with an output of 100 units and a total fixed cost of N300.

$$\begin{aligned} \text{Average Fixed Cost} &= \frac{\text{Total Fixed Cost}}{\text{Total Product}} = \frac{\text{N300}}{\text{N100}} \\ &= \text{N3} \end{aligned}$$

Similarly, Average Variable Cost (AVC) is obtained by dividing the Total Variable Cost (TVC) by the units of output produced.

For example, if a farmer produced an output of 160 tons using a total variable cost of N480. Calculate the average variable cost.

**Answer:**

$$\text{Average Variable Cost} = \frac{\text{Total Variable Cost}}{\text{Total Product}} = \frac{\text{N480}}{\text{N160}}$$

$$= \begin{array}{ll} \text{Units of Output} & 160 \\ \text{N3.0} & \end{array}$$

### 3.3.2 Marginal Cost

Marginal Costs (MC) also known as incremental costs refer to the additional cost that can be incurred due to the production of additional unit of output. It is the increase in total cost resulting from increasing the output by one unit.

$$\text{Marginal Cost (MC)} = \frac{\text{Change in Total Cost}}{\text{Change in Total Product}} = \frac{\Delta TC}{\Delta Q}$$

### SELF ASSESSMENT EXERCISE 2

#### Hints

- Find the original cost = ~~NA~~
- Find the new cost = ~~NB~~
- Change in total cost = ~~NB~~ – ~~NA~~
- Find the original output = X
- Find the new output = Y
- Change in total product = Y – X

You can now use the above formula on marginal cost to solve the problem.

### 3.4 Implications of Costs in Farm Management

Usually, profit maximization is the motive of any farmer. Thus, profit is obtained by subtracting *costs* from *revenue*. In this case, it is important for farmer to understand the nature and structure of production costs and how they affect the decision making process.

Secondly, cost functions usually help the producers to determine the most profitable level of production i.e. the output which gives the maximum profits as well as the level of output in which production process depends.

Consequently, costs functions help the farmer to determine how much variable factor to be employed in combination with fixed factors in the production of an output for maximum benefit.

### SELF ASSESSMENT EXERCISE 3

1. Given that fixed cost is N5000, variable cost is N1500 and output is 50 units, what will be the average cost of producing one unit?
2. If as a result of increasing the output of cowpea from 10kg to 20 kg the total cost of production increased from N250 to N300. Calculate the marginal cost of production.

#### **4.0 CONCLUSION**

In unit 2, we have discussed the various types of costs associated with farm business. The conclusion that can be drawn from this unit is that deep knowledge of farm costs is a must for all serious minded farmers. No farmer can succeed without the knowledge of the various farm costs. Without record of farm costs he will not be able to find his profit and decisions will be difficult to make.

#### **5.0 SUMMARY**

In this unit, we have learnt that:

- i. Total Cost (TC) is a sum total of Total Fixed Cost (TFC) and Total Variable Cost (TVC) i.e.  $TC = TFC + TVC$ .
- ii. Total Variable Costs are the costs of production that varies according to the level of production.
- iii. Total Fixed Costs or Overhead Costs are the costs that remained the same regardless of the level of production.
- iv. Overhead Costs can be classified into three categories – Total Overhead Costs, Operating Overhead Cost and Activity Overhead Cost.
- v. Average Cost is obtained by dividing Total Cost of an output by the number of output units. Alternatively, Average Cost is the sum total of Average Fixed Cost and Average Variable Cost.
- vi. Average Fixed Cost is obtained by dividing Total Fixed Cost by the unit of output.
- vii. Similarly, Average Variable Cost is obtained by dividing the Total Variable Cost by the unit of output.
- viii. Marginal Cost or incremental cost is obtained by dividing the change in Total Cost by the change in Total Product.
- ix. The concept of farm costs is very important in taking decisions about farm organisation.
- x. Farm costs are also useful in farm planning, especially in the determination of the gross margin and the farm profit which are also important in farm budgeting.

#### **6.0 TUTOR-MARKED ASSIGNMENT**

1. Explain the following types of costs associated with agricultural production.
  - Total Cost
  - Variable Cost
  - Fixed Cost
  - Marginal Cost
  - Average Cost
2.
  - a. Identify the three types of Overhead Costs in agricultural production.
  - b. What is the implication of cost of a farmer?

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## **UNIT 3 VALUATION AND DEPRECIATION OF FARM ASSETS**

### **CONTENTS**

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- 2.0 Objectives
- 3.0 Main Content
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  - 3.2 Definition of Depreciation
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### **1.0 INTRODUCTION**

In unit 2, we discussed the meaning of cost, types of farm cost and the calculation of average and marginal costs. We further discussed why the understanding of these cost are very important in Farm Management. Another important tools in Farm Management that will be discussed in this unit are farm valuation and depreciation of farm assets. In order to calculate the estimates of depreciation charges, you will need a calculator to assist you.

### **2.0 OBJECTIVES**

By the end of the unit, you should be able to:

- define valuation
- identify the common methods of valuation
- define depreciation charges
- explain the three common methods of estimating depreciation
- calculate depreciation charges.

### 3.0 MAIN CONTENT

#### 3.1 Farm Valuation

Valuation involves setting value or attaching prices on property. When applied to farm business, valuation means setting prices on farm assets. Such assets may include: machines, buildings, livestock, growing crops at the end of accounting period, farm output in the store and unused farm inputs kept in the store. Valuation of farm assets is necessary to enable the farmer calculate his net worth at the end of accounting period or at any given period. Both the opening valuation and closing valuation form the major part of profit and loss in farm accounting.

##### Methods of Valuation

Various methods of valuing farm assets exist. The choice of method will depend on the purpose of the valuation. Farmer should be consistent in their method of valuation as this will not only affect the computed profit and loss but also the net worth of the farm.

The four most popular methods of farm valuation include:

- **Valuation at cost:** Computing with the actual cost of purchasing the farm assets.
- **Valuation at cost less depreciation charges:** This method used mainly for farm machineries and equipment.
- **Valuation at market price:** Computing with the current market price of the farm asset.
- Valuation at cost or market price which ever is lower.

#### 3.2 Definition of Depreciation Charges

Depreciation is the reduction in value of an asset through wear and tear. While depreciation charges is the amount of money or an allowance set aside annually on farm assets on the ground that the use of farm capital assets is one of the costs of earning the revenues of the business. Depreciation charge involves the spreading of the cost of an asset over its useful life. It is considered an annual expense and as such is regarded as variable cost. Depreciation charge is allowed according to special rules by the tax authorities.

The major advantage of depreciation is that it enable farmer to replace farm machines and equipment with ease i.e. without resulting into borrowing. Another advantage is that since depreciation is regarded as cost and is always made before the calculation of profit, it will seriously reduce the amount of tax paid by the business.

### 3.3 Methods of Estimating Depreciation Charges

There are three common methods of estimating depreciation charges. These include: straight line method, the declining balance method and sum of the year digit method.

#### 3.3.1 The Straight Line Method

Straight line method is also called the fixed – installment method. This method of estimating annual depreciation charge involves deducting the estimated residual or scraps or salvage value of an asset from its original cost and the balance divided by the number of years of estimated life of the asset.

Mathematically:

$$\text{Annual Depreciation} = \frac{\text{Cost of Asset} - \text{Estimated Salvage Value}}{\text{Estimated Number of years of Life of Asset}}$$

Salvage value also known as scrap or residual value is the estimated value that an asset supposed to cost at the end of the year the asset is expected to be in operation. For instance, a farm asset that is expected to be totally discarded at the end of its useful life will have zero salvage value.

#### Working Example:

If an asset costs N10,000.00 and can be sold off in the next ten years for N2,000.00. Calculate the annual depreciation.

**Answer:**

#### Step 1: State the formula

$$\text{Annual Depreciation} = \frac{\text{Cost of Asset} - \text{Salvage Value}}{\text{The Expected Life of the Asset}}$$

#### Step 2: Find the value of the items in the formula

Cost of asset	=	N10, 000
Salvage value	=	N2, 000
Expected life of asset	=	10 years

**Step 3: Apply the formula**

$$\begin{aligned}
 \text{Annual Depreciation} &= \frac{\text{N10,000} - \text{N2000}}{10 \text{ years}} \\
 &= \frac{\text{N8,000}}{10} \\
 &= \text{N800}
 \end{aligned}$$

What should be set aside every year for ten years = N800.

The major advantage of straight line method is that it is easy and straight forward to calculate. However, the method is not very useful for assets like machines and equipment in which the rate of turnover decreases with age.

**3.3.2 The Declining Balance Method**

In the case of a reducing balance method of depreciation, the actual depreciation expense is set at a constant proportion of the cost of the asset. In other word, a certain percentage of depreciation is taken for every year and is applied to the balance at the beginning of each year. This results into a diminishing annual absolute amount.

The major advantage of this method is that it depreciates assets according to the rate of their turnover. That is, depreciation charge is high when the asset is still new and with less repair and maintenance costs. However, there is usually problem of determining the exact percentage to use. Secondly, the salvage value of the asset cannot be determined before the expected life span of the asset.

**Worked Example**

If an asset costs N10, 000 and the rate of depreciation is 10 percent per annum and the asset is expected to last for five years. Calculate the annual depreciation charges.

**Answer:**

$$\begin{aligned}
 \text{(i) Annual Depreciation for year 1} &= 10\% \text{ of N10,000} \\
 &= \frac{10}{100} \times \frac{\text{N10000}}{1} \\
 &= \text{N1000}
 \end{aligned}$$

$$\begin{aligned}
 \text{(ii) Annual Depreciation for year 2} & \\
 \text{Balance at the end of year 1} &= \text{N10000} - \text{N1000} = \text{N9000} \\
 &= 10\% \text{ of N9,000}
 \end{aligned}$$

$$= \frac{10 \times \text{N}9000}{100} = \text{N}900$$

(iii) Annual Depreciation for year 3

$$\begin{aligned} &\text{Balance at the end of year 2} \\ &\text{N}9000 - \text{N}900 = \text{N}8100 \\ &= 10\% \text{ of N}8100 \\ &= \frac{10 \times \text{N}8100}{100} \\ &= \text{N}810 \end{aligned}$$

(iv) Annual Depreciation for year 4

$$\begin{aligned} &\text{Balance at the end of year 3} \\ &\text{N}8100 - \text{N}810 = \text{N}7290 \\ &= 10\% \text{ of N}7290 \\ &= \frac{10 \times \text{N}7290}{100} \\ &= \text{N}729 \end{aligned}$$

(v) Annual Depreciation for year 5

$$\begin{aligned} &\text{Balance at the end of year 4} \\ &\text{N}7290 - \text{N}729 = \text{N}6561 \\ &= 10\% \text{ of N}6561 \\ &= \frac{10 \times \text{N}6561}{100} \\ &= \text{N}656.1 \end{aligned}$$

### Salvage Value

The salvage value is whatever is left at the end of its useful life i.e.  $\text{N}6561 - \text{N}656.1 = \text{N}5904.10$ .

### 3.3.3 The Sum of the Years –Digits Method

This method like the declining balance method distribute depreciation expense more heavily in the early years of use and more lightly in later years. However, it has some advantages over declining balance method. It avoids an undistributed balance at the end of the useful life and depreciates the investment to the scrap value assigned.

Sum of the year digits method involves working out a fraction with a denominator and a numerator which is applied to the value at the beginning of each year.

### Finding the Denominator

For instance, if the life span of an asset is expected to be five years, the denominator will be the addition of the number of years i.e.

$$1 + 2 + 3 + 4 + 5 = 15$$

In this case, the denominator is 15.

### Finding the Numerator

The numerator of the fraction is the number of years remaining at the end of the accounting period. From the above example, in year 1 – the numerator is 5 and the denominator is 15. in year 2, the numerator is 4 and the denominator is 15. Year 3, the numerator is 3 and the denominator is 15. In year 4, the numerator is 2 and in year 5 the numerator is 1. The denominator remains 15 throughout the period.

### Work Example

If an asset costs N17, 000 and can be sold off in the next five years for N2000. Calculate the annual depreciation using sum of the year digits method.

**Answer:**

#### Step I: Getting the Denominator

$$1 + 2 + 3 + 4 + 5 = 15$$

#### Step II: Get the Fraction for Each Year

$$1 = 5/15 \quad 2 = 4/15 \quad 3 = 3/15 \quad 4 = 2/15 \text{ and } 5 = 1/15$$

#### Step III: Calculate the Annual Depreciation

$$\begin{aligned} \text{Value of Asset} &= \text{Original Cost} - \text{Salvage Value} \\ &= \text{N17,000} - \text{N2,000} \\ &= \text{N15,000} \end{aligned}$$

$$\text{Year 1:} \quad \frac{5 \times \text{N15,000}}{15 \times 1} = \text{N5000}$$

$$\text{Year 2:} \quad \frac{4 \times \text{N15,000}}{15 \times 1} = \text{N4000}$$

$$\text{Year 3:} \quad \frac{3 \times \text{N15,000}}{15 \times 1} = \text{N3000}$$

$$\text{Year 4:} \quad \frac{2 \times \text{N15,000}}{15} = \text{N2000}$$

$$\text{Year 5:} \quad \frac{1 \times \text{N15,000}}{15} = \text{N1000}$$

$$\text{Total Depreciation} = \text{N15,000}$$

$$\begin{aligned} \text{Total Value} &= \text{Total Depreciation} + \text{Salvage Value} \\ \text{N15,000} + \text{N2000} \\ &= \text{N17,000} \end{aligned}$$

### 3.4 Appreciation

Appreciation is the antonym of depreciation. Appreciation occurs as a result of increase in the value of an asset. Appreciation may occur through rising prices as a result of inflation, scarcity of the asset or increase in earning power. If after adding all the annual depreciation charges to the salvage value, the total value of the asset is more than the original cost, we have a case of appreciation of asset. If the addition of all the annual depreciation charges with salvage value is equal to the original cost then appreciation is zero i.e. there is no appreciation.

Conversely, the replacement cost of an asset may be very much greater than its original cost. This problem is dealt with by revaluing assets at intervals or even annually using special capital cost indices and adjusting depreciation charges accordingly. This is called replacement – cost depreciation.

#### SELF ASSESSMENT EXERCISE

1. A tractor was purchased by a farmer in 1998 for N6000, 000.00. In 2007, the tractor was sold off for N150, 000.00 when it was no longer economical to maintain. Calculate the tractors:
  - (i) Salvage Value
  - (ii) Total depreciation
  - (iii) Annual depreciation.
  - (iv) Appreciation.
  
2. A fiat tractor was purchased by a farmer in 1996 for N12000.00 in 2005; the tractor was sold off for 3000.00 when it was no longer economical to maintain it. Calculate the:
  - (i) Salvage Value of the tractor
  - (ii) Total depreciation

- (iii) Annual depreciation.
  - (iv) Appreciation.
- 3a. A motorized sprayer was purchased at N2000 and sold at N500 after 3 years. Calculate the annual depreciation of the sprayer using sum of the year digits method.
  - b. Calculate the salvage value of a tractor with depreciation value of N10, 580.00 and initial cost of N50, 000.00 after one year of use.

#### 4.0 CONCLUSION

In this unit, you have learnt the meaning of valuation and the various methods of valuation. You have also learnt the meaning of depreciation. You have seen how to estimate depreciation charges using the three common methods. The knowledge of depreciation is very essential for farm business as this will guide him in future replacement of his farm assets. The knowledge of depreciation will also reduce the amount of tax paid by farmers on their farm business.

#### 5.0 SUMMARY

You have learnt in this unit that:

- Valuation involved attaching prices to farm assets.
- There are four methods used in setting prices to farm assets. These include: valuation at cost, valuation at cost less depreciation, valuation at current market price and valuation at cost or market price which ever is lower.
- The method of valuation adopted will depend on the situation at stake.
- Depreciation represents the cost of wear and tear of an asset as a result of its operation.
- The three most popular method of depreciation include: straight line method, declining – balance method and sum of the year digits method.
- Sum of the year digits method combines the advantages of straight line method and declining balance method.
- Appreciation occurs if the sum of the depreciation value and salvage value is more than the original cost.
- Replacement – cost depreciation is necessary to take care of increase in the price of asset as a result of inflation.
- Depreciation is regarded as cost and therefore reduces the tax payable by farm business.



## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. Define farm valuation
- b. Discuss the various ways of valuing farm assets
2. Explain the meaning of the following terms:
  - a. Depreciation
  - b. Salvage value
  - c. Appreciation
3. Discuss three methods of estimating depreciation highlighting the merits and demerits of each method.

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## **UNIT 4 LITERATE VERSUS ILLITERATE FARMERS IN FARM MANAGEMENT**

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- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In unit three of this module, we explained the meaning of the concept valuation and the various methods used in the valuation of farm assets. We equally defined depreciation and discussed the three most common methods of estimating depreciation. We worked through examples under each method. Finally, we differentiated appreciation from depreciation. In this unit, we will look at the issue of literate and illiterate farmers and their implications in carrying out Farm Management functions.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- state the meaning of illiterate farmer
- explain who is a literate farmer
- list the characteristics of Nigerian agriculture
- discuss the implications of farmer's education on Farm Management functions.

### **3.0 MAIN CONTENT**

#### **3.1 Concepts of Literate and Illiterate farmers**

Illiteracy is the inability to read or write. Illiterate farmers therefore, can neither read nor write.

On the other hand, literacy refers to the ability to read, write and decode symbolic representations in order to ease communication between communicators irrespective of distance. It is the acquisition of the literacy skill that gives people real share of Western Education. Literacy limited to reading, writing and numeracy is generally regarded as traditional literacy. It is the most common or orthodox form of literacy. As a rule, any farmer who attended schools and obtained a minimum qualification of primary school certificate or its equivalent may be regarded as literate farmer.

### **3.2 Characteristics of Nigerian Agriculture**

Farming which is regarded as the art of tending crops and rearing animals is the major occupation of most rural communities in Nigeria. The following are the major characteristics of Nigeria agriculture:

- **High Level Illiteracy**

Nigerian agriculture is characterized by high level illiteracy. A greater population of Nigerian farmers can neither read nor write. This high level of illiteracy posed a great problem in the area of extension service. Hence, this slow down the rate of development as it has been established that there is positive relationship between the level of education of the populace and the rate of development. Illiteracy affects the adoption of new innovations and new technologies.

- **Small Farm Size**

Another important characteristic of Nigerian agriculture is the small size of the farmland per farmer. Over 70 percent of Nigerian farmers have an average farm holding of less than 5 hectares. This is called subsistence agriculture. With the small nature of the farm holdings farmers can only produce for himself and the family consumption with very little for market. Apart from the small size of the farm holding, farmers equally engaged in the planting of many crops depending on the need of the family. This small size impedes the mechanization of farmland.

- **Fragmented Farmland**

It is a common practice in Nigeria for farmers to own up to three or more farmland. These farmlands are scattered all over different locations. A typical Nigerian family may have an early yam and rice plots in the fadama, grains and late yam in the upland.

- **Poor Technology**

Nigerian agriculture is characterised by the use of crude implements. Most Nigerian farmers depend on the use of hoe and cutlass to cultivate their farmland. Farm mechanization is still largely restricted to Government farms and some few wealthy individuals who can afford it. Modern farm inputs are still beyond the reach of poor farmers. This explains why most Nigerian farmers still practice subsistence agriculture.

- **Low Level of Investment**

Low level of investment is one of the major characteristics of subsistence agriculture. Traditional farmers depend mostly on family labour, crude implements and the little savings at their disposal to produce. Due to their high level of illiteracy, most of them have no access to formal credit institutions. To compound the situation, the little credit available to them often diverted to non-farm uses.

- **Low Level of Output**

The small size of traditional farms, coupled with poor technology and low level of input collectively contributed to the low level of production output. Farmers produced mainly for domestic use and little for export. Farmers' output is subject to his farm size, family labour and the type of farm implements used. Since most farmers are poor, the level of investment in agricultural production is generally low and therefore, their output will equally be low.

### **3.3 The Effects of Illiteracy on Farm Management**

We have already seen that subsistence agriculture is peculiar to illiterate farmers while commercial agriculture is synonymous with literate farmers. Most of our discussions could best be applicable to commercial agriculture where profit is the ultimate goal of the farm enterprise.

Some of the effects of illiteracy on Farm Management include the followings:

- One of the characteristics of illiterate farmers is the small farmholding. This small farm size posed a serious problem in Farm Management in the area of determining the level of production, farm labour to employ and farm inputs to use.

- Another effect of illiteracy on Farm Management is the low level of technology and over dependence on the traditional method of farming. Modern commercial agriculture demands the use of modern farm inputs and new technology. For farm plan and decisions to work perfectly well, modern methods of farming must be adopted.
- Most illiterate farmers do not want to take any costly risk and therefore, do not put their savings in long-term investments such as plantation agriculture. This will affect decisions on how to select the best combinations of activities to produce the food supply and cash incomes needed to cover essential household needs.
- Illiterate farmer produces mainly for his family use only and only little for sale. This has serious effect on the volume of farm product for sales and even the type of farm product to produce.

### **SELF ASSESSMENT EXERCISE**

Discuss the effects of illiteracy on Farm Management functions.

## **4.0 CONCLUSION**

In this unit, you have learnt the meaning of literacy and illiteracy as they apply to farmers. We also discussed the characteristics of Nigerian agriculture and the effects of illiteracy on Farm Management functions. It was then concluded that, illiteracy has serious effect on Farm Management decisions.

## **5.0 SUMMARY**

You have learnt in this unit that:

- Those who could neither write nor read are regarded as illiterate.
- Literacy is the ability to read, write and understand symbols.
- Nigerian agriculture is characterised by high illiteracy level.
- Most Nigerian farmers own small plots of farmlands and scattered in different locations.
- Nigerian agriculture still depends largely on the use of crude implements.
- Most Nigerian farmers produced only for his family consumption with very little for sales.
- Illiteracy affects management decisions and therefore, affects the achievement of goals of Farm Management.

## **6.0 TUTOR-MARKED ASSIGNMENT**

- a. Differentiate between literate and illiterate farmers.
- b. List and discuss the major characteristics of Nigerian agriculture.

## **7.0 REFERENCES/FURTHER READINGS**

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## **MODULE 3 FARM INPUTS MANAGEMENT**

Unit 1	Land
Unit 2	Capital
Unit 3	Labour
Unit 4	Entrepreneur

## **UNIT 1     LAND**

### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Definition of Land
3.2	Characteristics of Land
3.3	Land Quality and Location
3.4	Land Management Practices
3.5	Land Cost
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Readings

### **1.0     INTRODUCTION**

In unit 4 of module 2, we discussed the relationship between literate and illiterate farmers in carrying out Farm Management functions. In the unit, attempt was made to differentiate between literate and illiterate farmers. We also discussed the characteristics of Nigerian agriculture. We finally looked at the effects of illiteracy on Farm Management decisions.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define land resources
- list the characteristics of land
- describe land management practices
- explain why there is variability in land cost.

### **3.0     MAIN CONTENT**

### 3.1 Definition of Land

Land could be defined as a farm resource given by nature. Land resources include the following: Soil, minerals, forests, fishing grounds and climates. All resources that exist naturally and contribute to the production of farm output are classified as land.

From the point of view of agriculture, land is the most important factor of production. No agricultural production can take place without land.

### 3.2 Characteristics of Land

- **Land is a gift of nature:** Land exists naturally without the effort of human being. Since it is the gift of God, man did not spend any amount to bring it into existence.
- **Land is relatively immobile:** Land cannot be moved from one place to another. That is why land is generally scarce in urban centres and in less demand in rural areas.
- **Land is fixed in supply:** Since land cannot be produced by man, land supply is therefore fixed. It cannot be increased to meet the rising demand.
- **The reward for land is rent:** The cost of producing land is zero since it is the gift of nature. However, the money paid for the use of any parcel of land is what we call rent.
- **Land value varies according to location:** The denser the population of an area, the greater the demand for land and hence, the higher the value. Therefore, land in urban areas commands a higher price than land in rural areas.

### 3.3 Land Management Practices

Two major steps are usually taken to maintain the productivity of land:

- Physical Measures:** These consist of construction of ridges or contours and planting of crops or trees on these ridges.
- Cultural Measures:** These measures include the avoidance of vulnerable areas like bank of rivers, steep slopes e.t.c, planting of cover crops and shade trees, crop rotation, application of fertilizers and compost manure, e.t.c.

Land for the production of crops and rearing of animals is not however, homogeneous. What can be produced from a particular piece of land depend on a number of factors namely:

- The climatic condition of each area especially rainfall distribution.



- The nature of the fertility of the soil, this explains why in the same area, maize do well on some plots of land and perform poorly on other plots.
- The topography of the area.
- Cultural practices of the people.
- The quantity and quality of the resources applied.
- The position of the area in relation to the market for the product.

All these factors affect farmer's decision on what to produce and the farming system to adopt. That is why we have variations in livestock and crop production across the country.

### **3.3 Land Cost**

The cost of producing land is zero because it is the gift of nature. Therefore, when we talk of cost of land, we are talking about the rental value i.e. the money paid for using a piece of land. Land cost varies from one location to the other. Generally, land cost more around urban areas and the cost reduces as we move away from the urban areas.

Land cost formed a small part of the fixed cost of farm budget in Nigeria. Land cost in most cases, determines the combination of enterprises that will be practiced in the area. Where the rental value is high, farmer will like to make the maximum use of the land by producing combination of enterprises that will bring maximum output. However, land tenure problem in Nigeria often prevent farmers from putting the best of their resources on the farm.

In general terms, efficient use of the land in areas where land is costly and in limited supply can be achieved by growing more profitable crops or rear animals with high gross margin. Farmers can also practice multiple cropping or even mixed farming and can reduce the length of fallow period by applying fertilizers to the land.

### **SELF ASSESSMENT EXERCISE**

List and discuss the factors that can determine what can be produced from a particular plot of land.

### **4.0 CONCLUSION**

In this unit, you have learnt about land resources. We discussed the meaning and characteristics of land. The unit further explained the management practices of land and the cost of land.

### **5.0 SUMMARY**

In this unit we have learnt that:

- Land is the gift of nature
- Land comprises of soil, climate, forests, fishing – ground and mineral ores.
- Land is fixed in supply.
- Land is not homogenous – it varies from place to place.
- Land is immobile – cannot be moved from place to place.
- Land has no production cost.
- The money we paid for the use of land is what we call rent.
- Rent form part of fixed cost of farm budget.
- It is possible to improve on the quality of land either through physical or cultural measures.

## **6.0 TUTOR-MARKED ASSIGNMENT**

- a. Define land.
- b. List the characteristics of land and explain two methods by which land productivity can be maintained.

## **7.0 REFERENCES/FURTHER READINGS**

Adegeye A. J. and J.S. Dito (1985). *Essentials of Agricultural Economics*. Ibadan: Impact publishers Nig. Ltd.

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## **UNIT 2 CAPITAL**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Definition of Capital
  - 3.2 Characteristics of Capital
  - 3.3 Types of Capital
  - 3.4 Sources of Capital
  - 3.5 Importance of Capital
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In unit 1 of module 3, we defined land. We also discussed the characteristics of land and management practices of land. In this unit, emphasis will be on capital, characteristics of capital, sources and importance of capital.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define capital resources
- list the characteristics of capital
- describe the types of capital available on the farm
- identify the sources of capital available to farmers
- explain the importance of capital in Farm Management.

### **3.0 MAIN CONTENT**

#### **3.1 Definition of Capital**

Capital is defined as the produced means of production. In essence, capital represents resources that are not needed for their own sake but they are needed for the production of other goods. Unlike land, capital is produced as a result of human efforts. Examples of farm capital include: Farm buildings, farm machineries and equipment, fertilizers, farm land, seeds and planting materials, breeding stock, crops, simple farm tools and more importantly, cash. The reward of capital is interest.

### 3.2 Characteristics of Capital

- One of the major characteristics of capital is that it is man-made.
- Capital assets normally lose value with years. The loss in value is as a result of wear and tear due to its use.
- Capital asset is used to acquire other goods.
- Capital asset can be stored.
- Capital asset can be classified into fixed or variable capital. It can also be classified into short, medium or long-term capital.

### 3.3 Types of Capital

There are many ways of classifying capital. Some of the classes of capital include the following:

- i. **Fixed Capital:** The demand for this group of capital remained constant irrespective of the level of production. Fixed capital refers to such farm assets that are acquired for the farm operation irrespective of the level of production. Such capital include – farm building, tractor and implements and other farm machineries.
- ii. **Variable Capital:** This form of capital is acquired based on the level of farm operation. The more the size of the farm, the more of such capital will be needed. Examples of variable capital include: cash, seeds and planting materials, fertilizers, e.t.c.
- iii. **Long Duration Capital:** Most of the fixed capital belongs to long duration capital. In addition, any capital that stretched beyond five years may be regarded as a long-term capital. Examples of such resources include: landed properties, farm buildings, perennial crops, e.t.c.
- iv. **Medium Duration Capital:** Any farm asset whose life span stretched between two to five years is normally classified as medium-term capital. In this group, we have heavy movable farm assets such as farm machineries, tractor, farm equipment and breeding stock.
- v. **Short Duration Capital:** These are capital needed for a short period on the farm. This capital is completely consumed within a year of production cycle. Examples of short-term capital include: planting materials, fertilizers, chemicals, feed, annual crops, fuel, e.t.c.

- vi. **Constant Flow Capital:** This type of capital generates cash for the farm business on daily basis. Examples of such capital include dairy cattle for the production of milk, layers for the production of eggs and vegetables.
- vii. **Monetary Capital:** This refers to the raw cash used for the purchase of necessary materials and for the day to day running of the farm business. Because of this, money capital is at times refers to as circulating or floating capital.

### 3.4 Sources of Capital

The various sources of acquiring capital for farm operations include the following:

- a. **Personal Savings:** From the income generated, farmers can re-invest to generate more income.
- b. **Friends and Relatives:** Friends and relatives can assist farmers, especially new entrants to acquire farm assets. This source of capital is however not very reliable.
- c. **Money Lenders:** Money lenders constitute one of the major sources of capital to farmers in Nigeria. Even though money lender is a reliable source of capital, the interests charged are usually too high. The high interest rate is because of high rate of default.
- d. **Cooperative Societies:** Cooperative societies are now becoming a very popular source of acquiring capital in Nigeria. The interest charged are usually small but the major problem of cooperative is the small amount of loanable compare to the number of people that wants to borrow.
- e. **Commercial Banks:** Commercial Banks are another major source of capital to farmers in Nigeria. With the various programmes that the Government put in place to guarantee the farmers, banks are no longer afraid to lend money to local farmers.
- f. **Other Banks:** Apart from Commercial Banks, there are other banks that grant credit to farmers to set up farm business. Such banks include: Agricultural and Rural Development Bank, Community Banks and Development Merchant Banks. Most of them are established partly to assist farmers acquire farm capital.

- g. Government Institutions:** Some states established agricultural credit corporations to assist farmers acquire farm capital for the operation of their farms. National Directorate of Employment is another important Government institution put in place to assist young men going into farming to acquire farm capital. There are other Poverty Alleviation Programmes by different state governments that are designed to assist farmers in acquiring farm capital.

### **3.5 Importance of Capital**

Capital is very important in agricultural production because of the following reasons:

- Capital enables farmers increase production of agricultural goods and services. That is, without capital no output can be produced by farmer.
- Capital enables farmers to hire additional labour to increase output.
- Capital also improves the standard of living of farmers. The use of capital saves farmers time and increase their output substantially. The job that will take ten men about one month to accomplish can be done by tractor in one day.
- Capital improves upon the efficiency of other factors of production. With capital, labour is able to work efficiently on the land.

### **SELF ASSESSMENT EXERCISE**

Increasing capital resources is the ultimate goal of any Farm Manager. Discuss.

### **4.0 CONCLUSION**

In this unit, we defined capital and list the characteristics of farm capital. We further explained the various types of farm capital available to farmers. We also discussed the sources of acquiring farm capital and in the concluding part of the unit; we explained the importance of capital in agricultural production.

### **5.0 SUMMARY**

This unit is devoted to farm capital and in the unit we learnt that:

- Capital is the produced means of production.
- The reward of capital is interest i.e. what is paid for the use of capital is interest.
- Capital is man-made, it depreciates, can be stored and can be classified.
- Capital can be classified into fixed, variable, long-term, medium term, short term, constant flow and monetary capital.
- The sources of acquiring farm capital include – personal saving, friends and families, money lender, cooperative societies, banks, Government institutions among others.
- Farm capital is very important in farm operation for the efficient utilization of resources.

## 6.0 TUTOR-MARKED ASSIGNMENT

1.
  - a. What do you understand by farm capital?
  - b. List and discuss types of capital used in agriculture.
2. State eight (8) sources of farm capital and briefly discuss any four.

## 7.0 REFERENCES/FURTHER READINGS

- Adegeye A. J. and J.S. Dittoh (1985). *Essentials of Agricultural Economics*. Ibadan: Impact publishers Nig. Ltd.
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## **UNIT 3      LABOUR**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
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  - 3.2 Characteristics of Labour
  - 3.3 Supply of Labour
    - 3.3.1 Types of Labour
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  - 3.4 Efficiency of Labour
    - 3.4.1 Definition
    - 3.4.2 Factors Affecting Labour Efficiency
  - 3.5 Measurement of Labour and Machine Efficiency
  - 3.6 Division of Labour
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

You remember that this module is devoted to discussing the factors of production. The last unit of the module discussed capital as a factor of production. In continuation of our discussion on the factors of production, this unit is devoted for discussing labour resources. Under labour resources, we shall look at the meaning of labour and sources of labour supply. Other areas include: Efficiency of labour, measurement of efficiency of labour and division of labour.

### **2.0 OBJECTIVES**

By the end of the unit, you should be able to:

- define labour resources
- list the sources of labour supply
- list the factors that affect the efficiency of labour
- explain how to measure the efficiency of labour
- describe division of labour
- list the disadvantages of division of labour.



### **3.0 MAIN CONTENT**

#### **3.1 Definition of Labour**

Labour may be defined as all human effort which may be physical or mental, skilled or unskilled used in the production process. Labour as a factor of production involves human being. The rewards for the use of labour are wages and salaries. Labour in combination with other factors of production is utilized to produce product. Labour is almost the most difficult among the factors of production to deal with because it involves man. In agriculture, skilled workers include farm manager, Extension Officer, horticulturist, agronomist, animal scientist, e.t.c. The unskilled workers perform general services such as farm attendants, gardeners and messengers.

Farm manager is interested in both the quantity and quality of labour. The quantity of labour refers to the total supply of labour while the quality of labour determines its efficiency.

#### **3.2 Characteristics of Labour**

- No two individuals have equal productive ability. It is therefore, generally accepted that labour varies in quality from one person to the other.
- Labour can be classified into productive and non-productive. Productive labour refers to any human effort that could change the forms of raw materials thereby creating utilities out of them. Non-productive labour are those that engage in handling goods that were already produced.
- Another important characteristic of labour is that it is perishable.
- Labour productivity varies with time because of age and length of working.
- Labour is mobile. People move from one place to the other in search of job.
- Labour has feeling and its consent must be sought before it is used in production.
- Labour cannot be stored like capital.
- Unlike land, labour is not fixed. The quantity and quality of labour can be increased depending on the level of business operation.

#### **3.3 Supply of Labour**

The supply labour will be discussed under the types of labour available and sources of labour supply.

### **3.3.1 Types of Labour**

Labour may be skilled, semi-skilled or unskilled. Skilled labour involved the use of mental efforts in carrying out productive activities. These groups of workers are those with high educational qualifications. Examples are agricultural officers, engineers, lawyers, doctors, accountants, e.t.c.

Semi-skilled labour involves the combination of both physical and mental efforts in carrying out productive activities. It includes workers with little education and training. They perform such work as clerical job, typist and such other middle level manpower.

Unskilled labour involves those workers with no education who use physical energy in carrying out their production activities. The categories of workers that fall under unskilled labour include messengers, cleaners, security guard and others that do not require mental efforts to perform.

### **3.3.2 Sources of Labour**

In almost all Nigerian small farmer communities, one can distinguish between three sources of labour for farm operations:

- Family labour
- Hired or paid labour
- Exchange or communal labour

In the peasant societies labour is provided by farmer and his family and this is one of the reasons for having many wives so as to help on the farm. The size and type of farm depend on the number of people in the family.

Occasionally, there is communal labour before the advent of hired labour. Usually, wages is determined by the type of farm operation embarked on.

The overall labour supply is affected by the following factors:

- The total population in the area
- The proportion of the population that is available for employment.
- The number of hours worked by each person per year.
- The level of economic activities of the area.

### 3.4 Efficiency of Labour

#### 3.4.1 Definition

Labour efficiency is the ability to achieve a greater output in a shorter period of time and without any reduction in the quality of the work. In other words, efficiency of labour refers to the ability to increase productivity per man employed.

#### 3.4.2 Factors Affecting Labour Efficiency

The efficiency of labour force depends on a number of factors which include:

- **Climate:** This is an important factor in agricultural production. It influences the willingness to work. Extreme temperature or high humidity are not conducive to work. Rainfall is another important climatic factor that can influence efficiency of labour as most farmers will not be willing to work under heavy rainfall.
- **Health of the Worker:** The efficiency of the worker is closely related to his state of health which in turn depends on his being adequately fed, clothed and housed.
- **Peace of Mind:** Anxiety is detrimental to efficiency. A social security scheme relieves people from worry about the future by providing for them in times of sickness, unemployment, and old age. Whatever situation that can cause anxiety, fear and unrest in the mind of farmer will affect his general performance on the farm.
- **Working Conditions:** The general condition under which people work can influence the efficiency of labour. For workers to be efficient in the performance of their duties if require motivation and encouragement. It also requires regular payment of their wages and salaries as at when due. Their annual increment and promotions must also be given to them at the appropriate time. Overtime and bonuses can be paid to motivate them to do more. Other steps that can be taken to improve efficiency include granting of vehicle and housing loan.

- **Education and Training:** This factor has three aspects – general education, technical education and training-on-the-job. A high standard of general education is essential for developing intelligence and providing a foundation upon which more specialized vocational training can be based. Technical education is available to most people only in their own time, generally by attendance at evening classes. Vocational education consists chiefly of subjects related to the profession or trade of student. The third type of training is known as training on the job and each firm must undertake this for its own employees.
- **Efficiency of other Factors:** The productivity of labour will be increased if the quality of the other factors is high. The more fertile the land, the greater will be the output per man, other things being equal.
- **Nature of Farm Layout:** How crops and/or livestock are combined influences labour utilization from day to day and from season to season. Fragmented fields and poor layout can result in an inefficient use of labour.
- **Management and Supervision of Labour:** The way labour is managed and supervised makes a given supply of labour more effective on one farm than the other. Others are the ways workload is planned, the type of incentive given or the wage rate paid.

### 3.5 Management and Supervision of Labour

There are many methods of measuring labour efficiency. Realistic assessment of labour use must take care of family labour, valued at the current wage rate. If an adult man works on the farm for a whole day, it is valued as one manday. If it is an adult woman, it is valued as two-third manday and children are valued as one-third manday. The following are the methods of measuring labour and machine efficiency:

- **By Observation:** By observation, you can compare known optimum efficiency with the performance on the farm. Balance of seasonal labour requirement on the farm is an aspects which can pinpoint local weakness in the use of labour.
- **Calculating Labour Cost per Hectare:** This is not a reliable method but quick to measure efficiency. Increases in labour input are economically justified so long as the result in addition to output exceeds the value to cost of extra labour. This depends on the intensity of farming – very intensive farm carries higher labour cost.

High output per man may be achieved at the expense of other farm resources. That is why this method is not very reliable.

- **Labour Efficiency Index:** This method compare the calculated man days requirement of the farming system with the actual man-day used.

The step used in the calculation is as follow:

- **Step I:** Estimate the normal labour requirement in man days using a standard table of man-day requirement for each crop and livestock
- **Step II:** Find 15 – 20 percent of this total man-day requirement. That is devoted to works of general nature.
- **Step III:** Subtract this 15 percent from the total man-day requirement to obtain the annual labour requirement in man-day.
- **Step IV:** The annual labour obtained for the farm now valued based on the current wage rate in the area and at the rate of working 8 hours per day.
- **Step V:** The resulting figure is then compared with annual labour cost including an allowance for paid family labour.

### Mathematically:

$$\text{Labour Efficiency Index (LEI)} = \frac{\text{Estimated Manday}}{\text{Actual Manday used}} \times \frac{100}{1}$$

A result of over 100 indicates a better than average Labour Efficiency Index.

### 3.6 Division of Labour

The first stage in the division of labour occurred when one began to specialize in particular crafts instead of doing everything for themselves. The term is however, more particularly applied to specialisation of processes where the production of a commodity is divided into a number of separate processes each of which is performed by a different man. Traditionally, there is division of labour between domestic and farm activities. Subsistence crops which require little work are looked after by women while the cash crops which require more work are usually looked after by men.

Some of the advantages of division of labour are as follows: men acquire greater skills when they specialize in single operation, it reduces the waste of time that occurs when men have to change from one process to another, it also pave way for the introduction of machinery. Disadvantages of division of labour are that the work become more monotonous, a decline in craftsmanship occurs and specialists find it more difficult to obtain work if they become unemployed. The extent to which division of labour can be carried out is limited by the extent of the market for the commodity.

### **SELF ASSESSMENT EXERCISE**

- 1a. What is division of labour?
- b. Discuss the advantages and disadvantages of division of labour in farm business.
2. Explain in detail any three methods of measuring labour efficiency
3. List and explain any five factors affecting the supply of farm labour.

## **4.0 CONCLUSION**

You have noted that labour is human effort and the rewards paid for the use of labour are wages and salaries. We looked at the characteristics of labour and supply of labour. We further discussed the factors affecting the efficiency of labour and measurement of labour efficiency.

## **5.0 SUMMARY**

In this unit, you have studied labour resources as a factor of production. In this regard you have learnt that:

- Labour could be physical or mental, skilled or unskilled and productive or non-productive.
- Labour is perishable and it varies from one person to another and with time.
- Labour can be grouped into skilled, semi-skilled and unskilled.
- In traditional agriculture, there are three sources of labour supply – family labour, hired or paid labour and exchange or communal labour.
- Labour efficiency means increased productivity per man employed.
- Climate, health of worker, peace of mind, education and training, working conditions, efficiency of other factors of production e.t.c. all influence the efficiency of labour.

- We can measure labour efficiency through observation, calculation of labour cost per hectare and calculation of the labour efficiency index.
- Man acquires greater skills and reduces time wastage in farm operations through division of labour.
- Work becomes monotonous as a result of division of labour. There is also decline in craftsmanship.

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. What is labour?
- b. Discuss the supply of labour stressing its characteristics as a factor of production.
- 2.a. What is labour efficiency?
- b. List and discuss any five factors that influence the efficiency of labour.

## 7.0 REFERENCES/FURTHER READINGS

- Adegeye A.J. and J.S. Dittoh (1985). *Essentials of Agricultural Economics*. Ibadan: Impact Publishers Nig. Ltd.
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## UNIT 4 ENTREPRENEURSHIP

### CONTENTS

- 1.0 Introduction

2.0	Objectives
3.0	Main Content
3.1	Definition of Entrepreneur
3.2	Why Entrepreneur is separated from Labour
3.3	Farm Organizational Chart
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Readings

## **1.0 INTRODUCTION**

In Units 1, 2, 3 and 4 of this module, we have discussed the management of farm inputs used in the production process. The farm input discussed include – land, capital, labour and entrepreneur. We discussed the meaning of these factors of production and their characteristic features. We further discussed their importance in Farm Management. The last unit of this module is devoted for entrepreneur.

## **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define entrepreneur
- explain why entrepreneur is separated from labour
- describe the organizational structure of a typical farm business.

## **3.0 MAIN CONTENT**

### **3.1 Definition of Entrepreneur**

Entrepreneur or Enterprise or Organization describes the function of taking decision about what to produce and who combines the other factors of production to produce what has been decided on. He combines and organises land, labour and capital in such a way as to obtain maximum production of goods and services at minimum costs. The entrepreneur is normally the person who risks his capital in establishing a business whose profitability cannot be determined at that time. The reward for entrepreneur is profit or loss.

### **3.2 Why Entrepreneur is separated from Labour**

Entrepreneur which is the fourth factor of production involve human efforts similar to labour and yet it is separated from labour as a factor of production. The reason for separating entrepreneur from labour is based



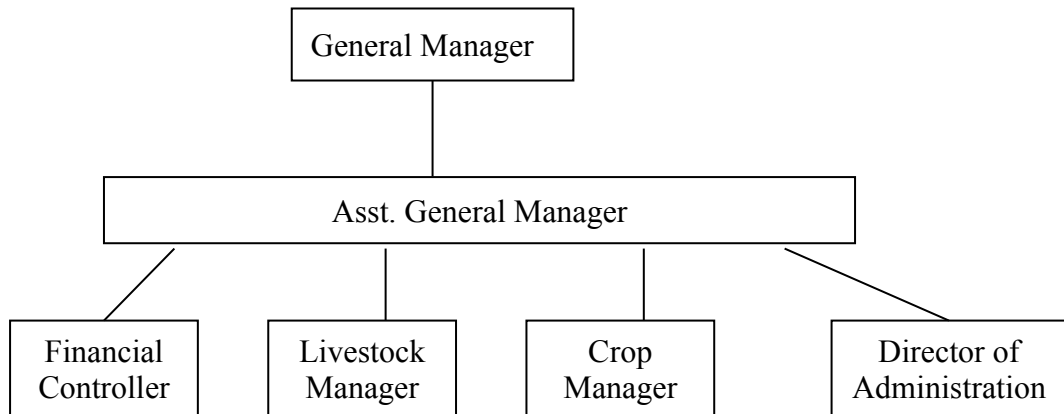
on the crucial functions which entrepreneur performed which labour does not perform. These functions are as follows:

- **Provision of Capital:** This is one of the most important functions performed by entrepreneur which labour does not perform. He provides the capital for the formation of the business. He also provides capital for carrying out production activities of the business. It is from this capital provided that other factors of production like labour can function.
- **Risks Bearing:** Entrepreneur bears all the risks that occur in business. As the provider of capital if the business fails, he bears the loss all alone. That is why his reward is either profit or loss. It is pertinent to mention here that labourers will collect their wages whether the business succeeds or not, he does not share in the risk of the business.
- **He Takes Decisions:** Decision taking is another important function of entrepreneur. There are many decisions confronting business organization. In farm business, entrepreneurs are confronted with such decisions as what to produce, how much to produce and how to produce. The success or failure of the business depends greatly on the good or bad decisions taken by the entrepreneur.
- **Co-ordination of Other Factors:** The entrepreneur combines and co-ordinates other factors of production in order to achieve meaningful production. He determines the quality and quantity of these other factors of production that will be enough for productive purposes.
- **Efficient Management:** The entrepreneur also plays the role of maintaining efficient management in production lines. He directs where workers should work and delegate authority to his assistant for the efficient and effective management of their limited resources.
- **Miscellaneous Functions:** These functions include determination of the price of goods produced, ensuring good working condition for the workers, determining the scale of production, whom to employ and retrench or retire, e.t.c.

### 3.3 Farm Organisational Chart

Agricultural businesses are made up of people working together toward a common purpose. As soon as the agribusiness involves more than one person, a variety of organizational, personnel, leadership and motivational issues inevitably arises. The larger the organization, the more complex and critical the issues become.

### A Typical Farm Organisational Structure



The typical farm organisational structure above provides a cordial relationship between Farm Management and farm workers. The highest authority in a farm organisation is the General Manager who may be the owner of the business or employed to perform the duty. Next to him is the Assistant General Manager. After the Assistant General Manager, the running of the business is divided into various units. The Finance Department is headed by the financial controller and administrative department is headed by Administrative Manager. Depending on the complexity of the business, the core units can be divided into crop and livestock each headed by a manager. All the workers under each unit are answerable to their sectional head who will in turn take instructions from above.

No organisational structure is better than the people of whom it is composed. Their understanding of the structure and their willingness to work within it are essential to its effectiveness. Even when people are trying to make it work, problems arise. People have emotions and misunderstandings especially during seasonal peaks of farm production and emotionally tired. At this point and at all stages of farm production only an honest and effective communication can resolve any problem that may arise between the farm workers.

### SELF ASSESSMENT EXERCISE

Describe with the aid of a sketch diagram an organisational structure of a poultry farm.

### 4.0 CONCLUSION

In unit four, we discussed the entrepreneur as a factor of production. In this unit, we defined entrepreneur and justified why entrepreneur is separated from labour as a factor of production. We finally described the organisational structure of a typical farm business.

## 5.0 SUMMARY

In this unit, we have learnt that:

- Entrepreneur combines and organises other factors of production to produce maximum output with minimum cost.
- Entrepreneur is also known as enterprise or organization.
- The reward of entrepreneur is either profit or loss.
- Both entrepreneur and labour involve human efforts but entrepreneur is different from labour because the two perform different functions.
- Entrepreneur provides the capital used in forming the business as well as the capital needed for the day to day running of the business.
- The entrepreneur bears the risks of the business alone and takes decisions all alone. Therefore, all the profit or loss also belongs to him alone.

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. Define entrepreneur
- b. Why is entrepreneur separated from labour as a factor of production?

## 7.0 REFERENCES/FURTHER READINGS

Adegeye A. J. and J.S. Dittoh (1985). *Essentials of Agricultural Economics*. Ibadan: Impact publishers Nig. Ltd.

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## **MODULE 4        FORMS OF BUSINESS OWNERSHIP**

- Unit 1    Single Proprietorship
- Unit 2    Partnership
- Unit 3    Corporate or limited liability Company
- Unit 4    Cooperative Societies

## **UNIT 1     SOLE OR SINGLE PROPRIETORSHIP**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Single Proprietorship
  - 3.2 Characteristics of Single Proprietorship
  - 3.3 Advantages of Single Proprietorship
  - 3.4 Disadvantages of Single Proprietorship
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In module 3, we discussed the factors used in the production of farm output. In Unit 1, we defined land stressing its characteristics and management practices. In unit 2, we defined capital, characteristics of capital, types and sources of capital. We discussed labour in Unit 3 stressing its characteristics, supply and efficiency of labour. In that unit, we further discussed measurement of labour efficiency and division of labour. Finally, in Unit 4, we discussed entrepreneur and differentiated entrepreneur from labour as a factor of production. This module is devoted for discussing the forms of farm business ownership. The module is divided into four units – sole proprietorship, partnership, cooperative and corporate business or enterprise.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- explain the meaning of sole proprietorship
- list the characteristics of sole proprietorship
- list the advantages of sole proprietorship
- list the disadvantages of sole proprietorship

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Single Proprietorship**

The simplest form of business in farm organisation is the one-man business or sole proprietorship. It exists where the whole business is owned and controlled by one person. He bears all the risks alone and

this form of business has unlimited liability. He however, enjoys all the profits alone. This type of business has no legal existence i.e. it is not a legal entity.

### 3.2 Characteristics of a Single Proprietorship

The main features or characteristics of single or sole proprietorship include the following:

- **Forms of Ownership:** It is owned and run by one person, though he may have employees.
- **Type of Liability:** He has unlimited liability. Therefore, the failure of the business could lead to the sale of his personal assets.
- **Source of Capital:** He provides the capital required for starting and running the business either from personal saving or loan from other sources.
- **Motive of its Formation:** The motive of forming the business is to make profit. If the business succeeds, he makes profit, but if the business fails, he sustains a loss.
- **The Legal Status:** The business is not a separate legal personality. The law does not distinguish between the business and the owner.
- **Method of Withdrawing Capital:** The business is controlled and managed by the sole proprietor himself. Therefore, the owner does not consult anybody before withdrawing capital.
- **Nature of the Business:** The one – man business is the oldest, simplest and most common type of business organisation. Many big business concerns which exist today started as sole – proprietorship.

### 3.3 Advantages of Sole – Proprietorship

1. **Establishment:** It comes into existence with great ease. This is because it requires small capital and it does not require all the formalities and legal processes undergone by other forms of business.
2. **Capital Requirement:** Sole proprietorship requires small capital to operate. Because of this advantage, it is the commonest and most popular form of business ownership in Nigeria.
3. **Decision making:** Decision taking is quick. This is because the sole-proprietor does not need to consult anybody before taking decision.
4. **Business Management:** This form of business is easy to manage because of its small size and small number of workers involved.

It has a simple organizational structure which makes it easy to manage.

5. **Business Environment:** The sole proprietorship is suitable where there is a need for special products and a small market for goods and services. Where special products are required, the one-man business is very suitable since production is usually on a small scale. Large business organisations produce standardized goods and are therefore, hardly suitable for providing special products.
6. **Share of Profit:** Since the business owner contributes all the capital used in establishing and running the business alone, all the profits also belong to him alone.
7. **Existence of Privacy in the Business:** The sole proprietor can keep his business affair secret. No law compels the owner of the business to submit his audited balance sheet to the registrar of companies.
8. **Relationship between the Owner and the Employees:** As a result of the small nature of sole-proprietorship, the employees are personally known to the proprietor. This makes supervision easy and ensures effectiveness of business operations.
9. **Multiple Occupations:** It is possible for the sole-proprietor to operate more than one occupation at a time. The owner can combine two or more types of occupation as a result of the flexibility of his business.
10. **Withdraw of Asset:** In case the owner is no longer interested in the business, he can easily withdraw his assets without consulting anybody. As it is easy to form the business, it is equally easy to close the business.

### 3.4 Disadvantages of Sole-Proprietorship

1. **Limited Capital:** There is limited capital to finance the business. This is as a result of the fact that the capital used in running the business comes from one man. As a result, lack of enough capital limits the rapid expansion of the business.
2. **Limited Ability:** As a result of the fact that the business revolves around one man, its progress depends on the ability of the proprietor alone.

3. **Unlimited Liability:** He bears the entire risk of the business alone. If the business fails, he bears the entire loss and his personal belongings may have to be sold to pay his creditors. His liability is not limited to the amount of capital he has invested in the business.
4. **The Business is not a Legal Entity:** The owner is not distinct from the business. This means that if the business is taken to court it is the owner that is also taken. The business cannot sue or be sued in its own right.
5. **Lack of Continuity:** The business has uncertainty of continuity. The exit of the owner may end the business. If the sole proprietor dies, the business may die with him either because he has no reliable somebody to continue the business or his children/relations lack interest in the business.
6. **Low Competitive Ability:** This is because of limited capital and limited ability of the owner. The owner of the business does everything alone. Therefore, his ability to compete effectively with other similar business is highly limited to whatever the owner can offer.
7. **Inadequate Leisure Time:** There is no period of rest or break for the business owner. The proprietor has no leave and no retirement age. He continues to work day and night for success of the business.

### **SELF ASSESSMENT EXERCISE**

Why is single or sole proprietorship a very popular form of business ownership among the Nigerian farmers?

## **4.0 CONCLUSION**

In Unit 1 of this module, we have discussed single or sole proprietorship as a form of business ownership. The unit is divided into four sections. The first section explains the meaning of one-man business; the second section discussed the characteristics features of sole or single proprietorship. Sections three and four highlighted the advantages and disadvantages of sole proprietorship respectively.

## **5.0 SUMMARY**



In this unit we have learnt that:

- a. In single proprietorship, the business is owned and controlled by one person.
- b. It is the most common and simplest form of business ownership among the rural people in Nigeria.
- c. The highlights of the characteristic features of single proprietorship include:
  - Form of business ownership,
  - Type of liability,
  - Source of capital,
  - Motive of its formation,
  - The legal status,
  - Method of withdrawing capital and nature of the business
- d. The areas touched under the advantages of single proprietorship include:
  - Ease of establishment,
  - Small capital requirement,
  - Quick decision taking
  - Easy management of the business can be operated under special demand,
  - Shares profit alone and
  - Existence of privacy in the business, e.t.c.
- e. The major disadvantages highlighted
  - Limited capital,
  - Limited ability,
  - Unlimited liability,
  - The business is not a legal entity,
  - There is lack of continuity in case of death of the owner and
  - Low competitive ability.

## **6.0 TUTOR-MARKED ASSIGNMENT**

- 1a. What is single-proprietorship?
- b. Discuss the advantages of single-proprietorship over other forms of business ownership.
2. Discuss the meaning of single – proprietorship stressing its characteristics features.

## **7.0 REFERENCES/FURTHER READINGS**

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## **UNIT 2 PARTNERSHIP**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Partnership
  - 3.2 Types of Partnership

- 3.3 Characteristics of Partnership
- 3.4 Advantages of Partnership
- 3.5 Disadvantages of Partnership
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

## **1.0 INTRODUCTION**

In Unit 1 of this module, we discussed the most popular form of business ownership among the farmers – sole proprietorship. Issues raised in the unit include: meaning of sole proprietorship, characteristics of sole proprietorship, advantages and disadvantages of sole proprietorship. This unit is devoted to discussing partnership form of business ownership. The area covered include: meaning of partnership, types of partnership, characteristics of partnership, advantages and disadvantages of partnership

## **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- explain the meaning of partnership
- describe the various types of partnership form of business ownership
- list the characteristics of partnership
- list the advantages of partnership
- list the disadvantages of partnership business organisation.

## **3.0 MAIN CONTENT**

### **3.1 Meaning of Partnership**

Partnership is a relationship which exists between two or more persons, who by an agreement decided to run a business together and share the risks and profits of the business. Generally, the number of partners may vary from a minimum of two to a maximum of twenty.

People wishing to form themselves into a partnership should draw up a Deed of Agreement or Article of Partnership which sets out in written form, the terms and conditions of the partnership. The Deed is not a legal necessity but it has the advantage of containing a written agreement should dispute over the terms of the partnership arise in future. The partnership Deed usually contains the following:

- Names of the partners

- Name and nature of the business formed.
- Amount of capital contributed and the rate of interest to be paid on the capital invested in the business.
- Distribution of the partnership
- Duration of the partnership
- Amounts that can be withdrawn by the partners from the partnership for their private use since they do not receive salaries.
- The procedure of liquidation or what happens after the death of a partner.

### 3.2 Types of Partnership

There are two major types of partners:

- **Ordinary or Active Partners:** In this type of partnership, all members contribute equal capital and take active part in the organisation and management of the business. All the partners have equal powers, unlimited liabilities and profits are shared equally.
- **Limited or Sleeping Partners:** A sleeping partner on the other hand is someone who contribute capital but takes no active part in the organisation and management of the business. As the name implies, a limited partner has a limited liability. This partner does not receive any salary as he does not take part in the organisation and management of the business. He receives a fixed rate of interest on his capital.

### 3.3 Characteristics of Partnership

The main features or characteristics of partnership include the followings:

- **The Legal Status:** The business is not a separate legal entity and cannot therefore sue or be sued in its own name.
- **Types of Liability:** Partners have unlimited liability.
- **Source of Capital:** The partners contribute capital/skill according to the agreement reached. In return, each of them receives a proportion of the profits as agreed.

- **Motive of its Formation:** The motive of forming partnership is to make profit.
- **The Legal Status:** The business is not a separate legal entity and cannot therefore, sue or be sued in its own name.
- **Nature of the Business:** The business has no board of directors. The control and management of the business is in the hands of the active partners.
- **Method of Withdrawing Capital:** Withdrawal of capital must be approved by other partners as laid down in their partnership deed.
- **Mode of Operation:** The partners usually take the major decisions together. They also bear the risks of the enterprise together.

### 3.4 Advantages of Partnership

- a. **Capital Supply:** This form of business ownership offered better resources for starting and running a business than the sole proprietorship. This is because partnership required two to twenty people pooling their resources together. In addition, it will be easier for a group of people to borrow money in the bank to finance the business than individuals. This is because the group will be able to offer better collateral security than individuals.
- b. **Decision Making:** There is the likelihood that better decisions would be taken. Since decisions are jointly taken, each partner will contribute his own ideas. The better ideas are taken since two heads are better than one.
- c. **Sharing of Risks and Liabilities:** Business risks are shared among all the partners. Each partner is jointly liable with other members of the business for all the debts of the partnership. This reduces the liability of each partner in the event of business failure.
- d. **Prospect of Business Continuity:** Unlike sole proprietorship, the death of one partner may not lead to a total dissolution of the business since the other partners can continue the business. Furthermore, a partner may take rest due to illness without adversely affecting the business.
- e. **Existence of Privacy in the Business:** Like the single proprietorship, the partnership can keep its business affairs private since it is not required to make its accounts available for public inspection.
- f. **The Relationship between the Partners and the Customers:** There is still personal contact with both the customers and the employees of the business. This is because of the small size of the business when compared with corporate business.

- g. **Multiple Occupations:** Like the single proprietorship, partnership is allowed to set up more than one small business. In addition, each of the partners could still run another small business on his own.
- h. **Specialization and Division of Labour:** As a result of different skills and talents possessed by partners, application of division of labour is possible. There could be specialisation among the partners in the organisation and management of the business. Some partners may specialize in production, marketing and administration of the business.
- i. **Employment Opportunity:** In comparison with the single proprietorship, the large size of the partnership made possible by its enough capital, make it possible to offer more employment to people.

### 3.5 Disadvantages of Partnership

1. **Limited Capital:** Unlike the limited liability company, the partnership has no legal right to obtain more capital through shares from members of the public.
2. **Unlimited Liability:** If the business goes into liquidation, the partners will lose all the capital they contributed and if not enough, they will sell their personal properties in order to offset the remaining debts.
3. **Partnership is not a Legal Entity:** The business is not a separate legal entity. A partnership cannot sue or be sued in its own right. The partners can be sued separately or jointly as a result of any breach of contract on the part of the business.
4. **Disagreement between Partners:** Disputes and arguments may arise among the partners especially if it is felt that some members are not contributing enough to the success of the business. Quarrels may lead to litigation which could eventually cause a total dissolution of the business.
5. **Slow Decision Making:** Decisions take a longer time to be reached than in the single proprietorship. This is as a result of the fact that many people must be consulted before any major decision or policy is taken.
6. **Exit of a Partner may end the Business:** The death or withdrawal of a partner may lead to the end of the partnership. If

a partner dies, his relatives may want to withdraw his share in the business. Therefore, the continuity of the business may be adversely affected.

7. **Decrease in Personal Interest:** The interest the partners will show in the business will be minimal because the business is not one person's affair.
8. **Lack of Mutual Trust among Members:** It is difficult to obtain, and subsequently difficult to maintain the mutual confidence so essential for this type of business enterprise.

### SELF ASSESSMENT EXERCISE

1. Prepare a comprehensive deed of agreement between you and your friend who wants to form partnership with you in establishing a poultry farm.
2. Compare single proprietorship with partnership.

## 4.0 CONCLUSION

In this unit, we have discussed partnership as a form of business ownership. Under this section, we explain the meaning of partnership and the types of partnership. We further describe the characteristics features of partnership. In addition, we highlighted the advantages and disadvantages of partnership as a form of business ownership.

## 5.0 SUMMARY

In this unit, we have learnt that:

- Partnership is a relationship which exists between two or more persons carrying on business with a view to making profit.
- The number of partners may vary from a minimum of two to a maximum of twenty.
- People wishing to form themselves into partnership should draw up a deed of agreement or article of partnership.
- There are two major types of partners: ordinary or active partners and limited or sleeping partners.
- The characteristic features of partnership highlighted include: Form of ownership, type of liability, source of capital, motive of its formation, the legal status, method of withdrawing capital and nature of the business.

- The areas touched under the advantages of partnership include: capital supply, quality of decision making, fair sharing of risks and liabilities, prospect of business continuity, existence of privacy in the business, cordial relationship between partners and their customers and employees, possibility of multiple occupations, possibility of specialisation and division of labour, e.t.c.
- The major disadvantages highlighted in this unit include: Limited capital, unlimited liability, partnership is not a legal entity, possibility of disagreement between partners, slow decision making, exit of one partner may end the business, decrease in personal interest and lack of mutual trust among members.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. List and discuss five merits and five demerits of partnership form of business ownership in agriculture.
2. Explain briefly but concisely the following terms:
  - a) Partnership
  - b) Partnership deed
  - c) Ordinary or active partners
  - d) Limited or sleeping partners

## **7.0 REFERENCES/FURTHER READINGS**

Anyaele J.U. (1990). *Comprehensive Economics* for Senior Secondary Schools. Lagos: Johnson Publishers Ltd.

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## **UNIT 3      CORPORATE    OR    LIMITED    LIABILITY                  COMPANIES**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Limited Liability Company
  - 3.2 Characteristics of Corporate Business or Limited Liability Company
  - 3.3 Formation of Limited Liability Company
  - 3.4 Advantages of Limited Liability Company
  - 3.5 Disadvantages of Limited Liability Company
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In unit 2 of this module, we discussed partnership form of business organisation. Under partnership we discussed the meaning of partnership, types of partners and characteristic features of partnership. Other areas discussed are: advantages and disadvantages of partnership. In this unit, we shall discuss corporate organisation or Limited Liability Company. Under Limited Liability Company, emphasis will be on the type of Limited Liability Company, characteristics, formation, advantages and disadvantages.

### **2.0 OBJECTIVES**

By the end of the unit, you should be able to:

- explain the meaning of Limited Liability Company
- list the characteristics of Limited Liability Company
- explain the formation of Limited Liability Company
- list the advantages of Limited Liability Company
- list the disadvantages of Limited Liability Company.

### 3.0 MAIN CONTENT

#### 3.1 Meaning of Corporate Organisation or Limited Liability Company

Limited Liability Company is an expansion of the partnership principle. It aims at securing a better method of mobilizing financial resources. The company come into existence when a number of persons join together to invest their money in a common enterprise. The liability of each investor for the debts of the business is limited to the amount of his capital invested in the company. The profits of the company are distributed in proportion to the shares subscribed and paid for. The limited liability company is owned and controlled by the shareholders. Each shareholder receives a share of the profits called the Dividend.

Limited Liability Companies are of two types – the private liability company and the public limited liability company or the joint-stock company. The two types are essentially the same. The major difference between them is that in private limited liability company, the number of owners who are shareholders ranges from two to fifty. In public limited liability company, the minimum number of shareholders is seven and there is no maximum number. In addition, private limited liability company is called private or closed because purchase of shares is restricted to only the founders. In contrast, public limited liability company is open to everybody in the society who is interested in the ownership of the company.

#### 3.2 Characteristics of Limited Liability Company

1. **Number of Shareholders:** For private limited liability company, the number of shareholders range from two to fifty. For public Limited Liability Company, the number of shareholders starts from seven and no maximum.
2. **Separate Legal entity:** The business is a separate legal entity. It is recognized as a personality in law. The business can sue and be sued in its own name, without involving the owners. It is registered as a corporate body.
3. **Limited Liability:** The shareholders have limited liability. In the event of business failure, the amount which a shareholder can loose is limited to his share or capital he has invested in the business. His personal assets are protected by the law.

4. **There is Continuity of Business:** The withdrawal or death of a shareholder may not affect the existence of the company.
5. **Board of Directors:** There is Board of Directors who controls the business of taking most of the major day to day decisions.
6. **Acquisition of Capital:** Capital is raised through the issue of shares. Capital can also be raised through borrowing from financial institutions and issuing debentures.
7. **Publication of Accounts:** Corporate business organisation must have its account publicized usually annually. It must submit an audited balance sheet to the Registrar of Companies for inspection.

### 3.3 Formation of a Limited Liability Company

- A. Filing of Documents with the Registrars:** The first step in the formation of a Limited Liability Company involves filing of documents with the Registrar of Companies. Such documents include:
- i. Memorandum of association
  - ii. Articles of association
  - iii. Names of the company directors, and
  - iv. Letter of undertaking.

The memorandum of association will include:

- The relationship of the company with outside world
- Name of the company
- The business address
- Objectives of the company
- The nature of the shareholders' liabilities
- The amount and type of shareholders' capital, e.t.c.

The articles of association give the rules and regulations guiding the operation of the company. The document provides information on the following areas:

- The duties, rights and position of each member of the company
- Method of the appointment of directors
- The rights and powers of the directors
- How dividend are to be shared
- How general meetings are to be held

- Method of electing directors
  - Voting rights of shareholders during elections
  - Method of auditing the account of the company
- B. The second step after the preparation and submission of the documents to the registrars of companies involved preparation of certificate of incorporation. If the registrar is satisfied that the business has met the necessary requirements for company formation, the registrar will then send a certificate of incorporation. The certificate of incorporation shows that the business has been recognized as a legal entity.
- C. The third step is the submission of the company prospectus to the registrar of companies. The prospectus shows how the company has raised or wants to raise its capital.
- D. The last step is the preparation of certificate of trading by the registrar of companies. The business can start functioning as soon as they receive trading certificate from the registrar of companies. All these legal procedures are necessary in order to protect the interested shareholders from being defrauded by a group of dubious people.

### 3.4 Advantages of Limited Liability Company

1. **Legal Entity:** The business has a separate legal entity and as a result, it is distinct from the owners. It can therefore, sue and be sued in its own right.
2. **Limited Liability:** In the event of business failure, the maximum amount a shareholder can lose is the amount of capital he has contributed to the business. His personal assets are protected by law.
3. **Large Capital:** The business has large resources of capital because of the large number of shareholders in the company. The company also finds it easy to borrow money because of its many assets which can be used as collateral.
4. **Sure of Continuity:** There is continuity of the business on the death or illness of a shareholder. The misfortunes of a shareholder do not affect the existence of the company and its operations.
5. **Transfer of Capital:** The shares of a public Limited Liability Company are easily transferable for cash. This form of business

ownership has the advantage of allowing the shareholders to transfer their capital at will if they feel dissatisfied with the company.

6. **Specialisation is Possible:** Division of labour is possible under this system of business ownership. Due to large number of people involved in running the business, the organisation is divided into various Departments. This leads to greater efficiency.
7. **Risks Reduction among Owners:** The business risks are shared among a large number of persons. The wider spread of risks results in reduced loss for each shareholder, in the event of business failure.

### 3.5 Disadvantages of Limited Liability Company

- a. **Difficult to Establish:** Due to Government interest in this type of business organisation, the formalities for its establishment are usually very complicated. A number of requirements must be fulfilled before the business is registered as a company.
- b. **Required Large Amount of Capital:** Apart from the formalities required, to establish the business, company also required huge amount of capital to start the business.
- c. **Delay in Decision Making:** There is delay in taking decisions because of the relatively large size of the business. Before any major policy change can be adopted by the manager, a meeting of shareholders or the board of directors has to be convened. All these may take quite a long time.
- d. **Lack of Privacy:** It is required by law for the company to make public all the financial activities and operations of the business. All vital documents and information concerning the business are also sent to the registrar of companies for inspection. At times, annual report of the company is published in the dailies.
- e. **Ownership is Separated from Management:** Since the shareholders who are the owners of the business are separated from the management of the business, there may be a negative attitude among the managers towards the interest of the shareholders. The managers may embezzle the company's fund since the business is not their own.

- f. Lack of Cordial Relationship between Employers and Employees:** Unlike single proprietorship and partnership, the size of this company makes cordial relationship with employers and customers/employees impossible. The shareholders may not know each other. The owners may range into thousands and are scattered throughout the country.
- g. Decrease in Personal Interest:** The type of interest, zeal and enthusiasms found in a business owned and controlled by one man is lacking in a Limited Liability Company. This is because the ownership is separated from the management.

### SELF ASSESSMENT EXERCISE

1. Differentiate between Limited Liability Company and partnership form of business ownership.
2. Describe the process involved in the formation of a Limited Liability Company.

## 4.0 CONCLUSION

In this unit, we have discussed the meaning of a Limited Liability Company. We also discovered the two types of Limited Liability Company. The characteristic features of corporate business were also highlighted. In this unit, we also further highlighted the advantages and disadvantages of Limited Liability Company.

## 5.0 SUMMARY

In this unit, we have learnt that:

- Corporate business is an association of individuals who agree to and jointly pool their capital together in order to establish and own a business.
- There are two types of Limited Liability Company – private Limited Liability Company and public Limited Liability Company.
- The characteristic features or Limited Liability Companies highlighted include: the number of shareholders, separate legal entity, limited liability, business continuity, there is board of directors, acquisition of capital and publication of accounts.
- There are four essential steps in the formation and establishment of a Limited Liability Company – filing of documents with the registrar of companies, preparation of certificate of incorporation, submission of company's prospectus and preparation of certificate of trading.

- The important areas touched under the advantages of corporate business include: legal entity, limited liability, large capital, prospect of continuity, transfer of capital, possibility of specialization and reduction in risks among owners.
- The major disadvantages highlighted include: difficult to establish, required large amount of capital, delay in decision making, lack of privacy, lack of cordial relationship between employer and employees, and decrease in personal interest.

## **6.0 TUTOR-MARKED ASSIGNMENT**

- 1a. What is a Limited Liability Company?  
b. Describe the characteristics of a Limited Liability Company.
2. List and discuss five advantages and five disadvantages of a Limited Liability Company.

## **7.0 REFERENCES/FURTHER READINGS**

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## **UNIT 4 COOPERATIVE SOCIETY**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Cooperative Society
  - 3.2 Characteristics of Cooperatives
  - 3.3 Types of Cooperative
  - 3.4 Advantages of Cooperative
  - 3.5 Disadvantages of Cooperative
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In unit 3 of this module, we discussed Limited Liability Company as a form of business ownership. In the unit, we defined Limited Liability Company and identified the two major types of such organisation. We also looked at the characteristics of Limited Liability Company that distinguished it from other forms of business. We further discussed the processes involved in the formation of corporate organisation. Finally, we discussed the advantages and disadvantages of such business organisation. In the last unit of this module, we are going to concentrate our efforts in discussing cooperative as a form of business organisation. The topics covered include – the meaning of cooperative, characteristics of cooperative, types of cooperative, advantages and disadvantages of cooperative.

### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define cooperative society
- list the characteristic features of cooperative societies
- describe the various types of cooperative societies
- list the advantages of cooperative societies as a form of business
- list the disadvantages of cooperative societies.



### 3.0 MAIN CONTENT

#### 3.1 Meaning of Cooperative Society

Cooperative is a form of business voluntarily owned, organised and upgraded by members for their mutual benefits. Unlike corporate business, the control is on their members and no individual is allowed to have controlling share. It is expected that most of the business of cooperative should be carried out with the member's patron, therefore, after paying all costs, the profit or surplus is returned to members in the form of patronage refund. If cooperative operate along such lines, they obtain certain kind of assistance from Government and they are usually exempted from taxes. The primary purpose of a cooperative business is to give good service to its members and to return any surplus or profit arising from this operation to its owners.

#### 3.2 Characteristics of Cooperative Societies

1. **Open Membership:** This principle implies that cooperative business should be opened to all those who are interested. There is no limit to the size of its membership. It is usually opened to persons with similar interests who wish to join.
2. **Democratic Control:** This principle implies the concept of one man one vote. Each member has one vote only and can stand for election into any office. They have equal rights. All the members take part in any major decision taking.
3. **Limited Return on Capital:** Cooperative societies exist primarily to provide services to their members at the lowest possible cost, hence, cooperators should not expect to make large returns on their invested capital.
4. **Patronage Dividend:** Profit made are shared to members according to their share contributions. This is meant to encourage people who are able to contribute more in the society to do so.
5. **Cash Transaction Only:** Members of the cooperatives are expected to purchase or sell produce strictly on cash basis. This means that no credit is allowed.
6. **Religious or Political Neutrality:** This implies that membership of cooperative society should be opened to all irrespective of religion, political or ethnic differences. This principle demonstrates the role of cooperative as a unifying factor in the society.

7. **Constant Education of Members:** Members could be trained on simple farm hygiene, livestock management, new production techniques like yam, fish farming, e.t.c. Cooperative education also helps to enlighten members on the importance of cooperation.

### 3.3 Types of Cooperative Society

1. **Producers Cooperative Society:** Producers cooperatives or group farming cooperatives are organised in order to enable small farmers reap the benefits of large scale farming, collective purchase and use of heavy machinery and other equipments. Through such societies, improved farming methods can be practiced. Members of this society contribute money in order to buy or hire equipment, machinery and raw materials at reduced rates meant for the promotion of their productive activities.
2. **Consumers Cooperative Society:** These are more concern with the sales of manufactured good to members at minimum cost. Members pool their resources together in order to buy goods in bulk from the manufacturers. They by-pass the middlemen in order to get these goods at cheaper rates and then distribute to their members.
3. **Marketing Cooperative Society:** The main objective of this society is to arrange for the sale of members' produce to encourage members to produce crops of high quality and promote cooperative spirit among the members. In addition, marketing cooperatives also provide loans and savings facilities to their members.
4. **Thrift and Credit Cooperative Society:** The aims of thrift and credit Cooperative Society are the provision of savings facilities and the granting of loans to members. Credit limits are fixed for all members in relation to their savings. The rate of interest charged on loans varies but are generally low.
5. **Multipurpose Cooperative Society:** As the name implies, these types of organisation discharge two or more functions. Most multipurpose cooperatives assist members to purchase farming tools and other essential materials. They serve as village banks where members can keep savings and obtain loans. They also serve as agents for the distribution of fertilizers and improved seeds and seedlings. Some of them combine production with marketing and processing.

6. **Other Cooperative Society:** Other forms of cooperative societies exist, they include: agricultural processing cooperatives, fishery cooperative society, farmers consumer cooperative society, service cooperative society, e.t.c.

### 3.4 Advantages of Cooperative Societies

- a. **Encouragement of Savings:** Cooperative thrift and credit societies encourage their members to save their money. This function is very important in Nigerian rural areas where commercial banks are very few. Left on their own, the individuals may not be able to save enough money for investment purposes.
- b. **Provision of Loans:** Cooperatives can raise loans for agricultural practices or other forms of production easily and at low interest rates. Cooperatives can borrow money more easily in bank than individual farmers. This is because they are in a better position to offer more collateral than individual farmers.
- c. **Education and Training of Members:** Cooperatives educate their members in the area of production, distribution, consumption and marketing of goods and services.
- d. **They are Democratic in Nature:** All members of the cooperative society have equal right to vote and be voted for. They have equal right to say how the society should be organised. In this way, cooperative society provides training in self-government and business management for its members.
- e. **They Prevent Price Fluctuation:** The motive of forming cooperative society is not to make profit but to protect the welfare of their members. They buy most of their products in bulk and sell to members at low costs. This results in low prices of goods.
- f. **Avoidance of Cheating and Hoarding:** Cooperative societies are known for open service. The satisfaction of members is the ultimate goal of cooperatives. Since their members are their immediate customers, they can not afford to cheat their members. Hoarding is also avoided by the society.
- g. **Increased Standard of Living:** Through cooperative societies, farmers have access to loans to increase their production capacity as well as to purchase essential items for the family. Cooperatives also purchase some manufactured goods and

distribute same to members. All these are aimed at improving the living conditions of members.

- h. Promote Unity Among Members:** Members of cooperatives are known to each other. They meet regularly and take decisions collectively. This personal interaction between members encourage inter- personal relationship among them.

### 3.5 Disadvantages of Cooperatives

- i. Low Capital Base:** This problem arises because of the poor background of most rural farmers who form the bulk of these societies. Another problem is the unwillingness of members to pay-up their subscriptions.
- ii. Political Influence:** Even though cooperatives are not supposed to be in politics. Many of the societies have found their ways into politics. Some were forced to declare for a particular political party as against the wish of some members thereby causing conflict and rifts among them.
- iii. Illiteracy of Members:** Most members of cooperative societies in Nigeria are illiterates. The result is that most of them may be ignorant of the potential gains of cooperative. Apart from the gains, illiterate members may not understand the working and principles of these societies.
- iv. Weak Management:** Cooperative officers are drawn from among members who are mainly farmers; they may lack administrative and managerial competence to handle the business efficiently.
- v. Possibility of Embezzlement:** Reports of embezzlement of cooperative fund is very rampant. Some cooperative officers connive to use societies' money for their selfish benefits.
- vi. High Rate of Loan Default:** Occurrence of loan default is very common among cooperative members. Loan default occurs within the societies as well as the loan guaranteed by the societies from the banks. Most loans granted through cooperative societies are usually without much collateral security. Most members usually enjoy the loan but only few pay back the money in full.
- vii. Low Membership:** Unlike Limited Liability Company, there is still low membership of cooperatives in Nigeria. Even though there is no limit to the number of shareholders, only few people

join cooperative business. This problem is probably due to lack of proper understanding of the principles and ideals of cooperatives.

### **SELF ASSESSMENT EXERCISE**

1. Distinguish cooperatives from other forms of business organisation.
2. Describe the steps you would take to form a multi-purpose agricultural cooperative society.

### **4.0 CONCLUSION**

In this unit, we have discussed the meaning of cooperative society. We have also discussed the characteristics of cooperatives that distinguish it from other forms of business. The various types of cooperative societies available were also discussed. The benefits derived from joining cooperatives were highlighted. Finally, the problems associated with cooperative movements were equally highlighted and discussed.

### **5.0 SUMMARY**

In this unit, we have learnt that:

- Cooperatives are business organisations jointly organised, funded and operated for the mutual benefits of members.
- Some of the features of cooperatives that distinguish it from other forms of business organisations include: open membership, democratic control, limited return on capital, dividend based on patronage, cash transaction only, religion and political neutrality and education of members, e.t.c.
- Many types of cooperatives exist. They include: Producers' cooperatives, consumers' cooperatives, marketing cooperatives, thrift and credit cooperatives, multipurpose cooperatives, e.t.c.
- Some benefits of joining cooperatives include: encouragement of savings, provision of loans, education and training of members, cooperative is democratic in nature, they prevent price fluctuations, they avoid cheating and hoarding of goods and improve the standard of living of members.
- The major disadvantages discussed include: low capital base, political influence, illiteracy of member, weak management, embezzlement of members' fund, high rate of loan default and low membership.

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. What is cooperative?
- b. List and discuss any five types of agricultural cooperatives known to you.
  
- 2a. Discuss any five benefits a farmer will enjoy from joining a cooperative society.
- b. Discuss any five problems facing agricultural cooperatives in Nigeria.

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## **MODULE 5      FARM RECORDS AND ACCOUNTING**

Unit 1	Concepts of Farm Record and Accounting
Unit 2	Farm Record Designs
Unit 3	Benefit Cost Analysis of Agricultural Projects
Unit 4	Financial Statements

### **UNIT 1      CONCEPTS OF FARM RECORD AND ACCOUNTING**

#### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Meaning of Farm Record
3.2	Meaning of Farm Account
3.3	The Importance of Keeping Farm Records and Accounts
3.4	Types of Farm Record and Accounting
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Readings

#### **1.0 INTRODUCTION**

In the last module, we learnt about the forms of business ownership. We identified four different types of business organisations – single proprietorship, partnership, corporate organisations and cooperative societies. For each of these organisations we discussed the meaning, characteristics, advantages and disadvantages among other things. This module is devoted to farm records and accounting and this unit is centred on the concepts of farm records and accounting.

#### **2.0 OBJECTIVES**

By the end of this unit, you should be able to:

- define farm record
- define farm account
- give at least five reasons for keeping farm records and accounts
- explain the various types of farm records and accounts that are available.

### 3.0 MAIN CONTENT

#### 3.1 Meaning of Farm Records

Farm records are the written records or documents of activities on the farm. Records of farm activities are kept on daily basis. From the daily records, the weekly summaries are prepared and the weekly summary provides information for the monthly and subsequently yearly summaries. All daily activities including performance of crops and livestock, symptoms of diseases observed, farm operations, and other happenings must be recorded promptly and accurately in the farm record book.

#### 3.2 Meaning of Farm Accounts

Farm accounts are the financial records of what the farmer spends or receives on the farm. The systematic way of recording financial business transaction is what is normally referred to as farm accounting.

Farm accounts are usually designed to show two major financial statements. First is the capital position or net worth of the farm i.e. balance sheet. Secondly, the income and expenditure i.e. profit or loss in the farm business.

#### 3.3 The Importance of Keeping Farm Records and Accounts

1. **Calculation of Profit Margin:** Farm records and accounts involve keeping of all the expenses incurred on the farm and the records of all the income in the operations of the farm. If the total income is more than the total expenditure on the farm, the result is profit and if the reverse is the case it results into losses.
2. **Progress Report:** Some of the important records kept on the farm are profit and loss, crop yield and livestock performances. Since the records are kept on yearly basis, the farmer can easily compare the progress made on yearly basis. Through these records, farmers can determine if there is increase in his farm size, livestock population, crop yield, e.t.c. over the years. This will enable him determine the progress he has made over the years.
3. **Easy Access to Credit Facilities:** One of the major problems facing credit institutions in Nigeria is to determine the appropriate credit suitable to each farmer. Proper records of farm account will eliminate this problem as the record will show the



level at which the farmer is operating. Granting appropriate credit will also reduce the problem of credit diversion by farmers.

4. **Determination of Appropriate Tax:** Farmers supposed to pay taxes based on the profit realised on their farms. If records and accounts are not properly kept, Government will decide to fix any amount which may lead to either over-tax or under-tax payment.
5. **Determination of Insurance Premium:** With the establishment of National Agricultural Insurance Company, it is now compulsory for any farmer taking agricultural loan to produce insurance cover for his farm business. Just like the taxation of farm business, insurance premium paid by farmer is also based on the volume of farm business. The amount of crop or livestock insurance to be paid is determined from the farm records and accounts kept by farmers. When records are not available, the insurance company can decide to fix any amount they so desired.
6. **Guide in Decision Making:** A good farm records and accounts will guide farmers in decision making process. A comprehensive record of farm activities will bring out clearly the area of weaknesses and strong points in Farm Management. A good farm records and accounts will show which enterprise is making progress and which one to be discarded. On the basis of resource allocation, farm records and accounts can reveal the level of fertilizer used on the farm or the rate of feed consumption by the livestock. This can lead to a decision on whether to reduce or increase the level of resources used on the farm.
7. **For Planning and Budgeting Purposes:** Farm records and account kept for many years will provide both the farmers and government information for planning purposes. Based on the past records and accounts both farmers and government can prepare accurate budget estimate for the next farming season. Past records and accounts will show clearly the amount spent on the various farm operations and the resources required from these records, the expected revenue can be projected for planning purposes.

### 3.4 Types of Farm Records and Accounts

There are many ways of presenting farm records and accounts. The method adopted depends on individuals and the type of business organisation involved. Generally, there are four different groups of farm records and accounts that are used by most farmers. These include:

- Production records
  - Income and expenditure records
  - Inventory records, and
  - Miscellaneous records.
- a. **Production Records:** Production records are the records of physical activities on the farm. In crop production, all farm operations involving inputs and outputs from land clearing to the harvesting stage are recorded under the production records. Similarly in livestock production, all operations from the introduction of the new breed up to maturity are recorded here. Production records may be presented under different classes depending on the type of farm enterprise and the choice of farm manager. In crop production we may have separate records for hectares of land under various crops; chemical used in various crops, family and hired labour used, crop yields, e.t.c. For livestock production, we identify such classes as quantities of feeds consumed by the various types of livestock, record of medical treatment, the weight gains of the various livestock, number of eggs collected, amounts of milk produced per animal, number of piglets furrowed per sow, e.t.c. All these records fall into production record.
- b. **Income and Expenditure Records:** All the money values of input under production records are recorded as expenditure records. Similarly, all the money values of output under production records are recorded as income records. Therefore, income and expenditure records are derived from production records. All purchases and wages paid on labour are recorded as expenditure while all the sales made on the farm are recorded under income. Income and expenditure provides the summary of financial transactions under the production record. Income and expenditure could be prepared for each enterprise on the farm while the income and expenditure for the entire farm is prepared from the individual enterprises.
- c. **Inventory Records:** Inventory records involved taking stock of all assets and liabilities on the farm at a specific date. In stock taking all the assets and liabilities are physically counted and valued so that the financial position or net worth of the farm can be seen at that particular point. In addition, the record will reveal all the unused inputs and unsold farm outputs at that point in time.

Inventory records involve two major steps. The first step involves the physical count of the assets and liabilities. Physical counts involve mere listing the assets and liabilities of the farm. Examples of such list include the total size of the farm, the crops grown and the number of stands or hectareage devoted to each crop, buildings and the use of such buildings, fences and dams. Other assets that could be listed include: Machinery and equipment such as tractors and their implements, cutlasses, hoes, e.t.c. Supplies such as ropes, chains, fertilizers, seeds, medicines, e.t.c. are also listed. A physical count of livestock should include the type and class of livestock, the age, sex as well as the number and weight of the animals.

The second step in inventory record is the valuation of the assets and liabilities already listed. We have already discussed the various methods of valuing farm assets in unit 3 of module 2. Such methods include: valuation at cost or using the actual cost price, valuation at cost or market price whichever ever is lower, valuation at current selling price and valuation by reproductive value or replacement cost.

- d. Miscellaneous Records:** Any important record which cannot be placed under production or income and expenditure and inventory records are put together under miscellaneous records. Some people referred to it as special records while others call it supplementary records. Some of the important records under this category include certificate of occupancy of the land, the soil map, farm layout as well as other legal documents pertaining to the farm like the business registration, tax payment, insurance, e.t.c. These documents are necessary for the smooth running of the farm business. At times, government and other relevant agencies demand for some of these documents before any further improvement or assistance can be allowed on the farm.

### SELF ASSESSMENT EXERCISE

1. List twenty (20) inventory assets that can be found in farm business.
2. Name a farm enterprise and prepare production record for the enterprise.

### 4.0 CONCLUSION

In this unit, you have learnt about the meaning of farm records and accounts, the importance of keeping farm records and accounts and the types of records and accounts kept in farm business. The conclusion that can be drawn from this unit is that no farm business can progress without proper records and accounts of its operations.

## 5.0 SUMMARY

You have learnt in this unit that:

- i. Farm records are the records of physical activities on the farm
- ii. Farm accounts are the records of financial transactions on the farm
- iii. Some of the advantages of keeping farm records and accounts include:
  - For the calculation of profit margin
  - To produce progress report
  - Easy access to credit facilities
  - Determination of appropriate tax
  - Determination of appropriate insurance premium
  - Guide in decision making and
  - For planning and budgeting purposes.
- iv. There are four major types of farm records and accounts which include:
  - Production records
  - Income and expenditure records
  - Inventory records, and
  - Miscellaneous records

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. Explain the term farm records and accounts
- b. List and discuss the importance of farm records and accounts in farm enterprises.
2. Enumerate the classes of farm records and accounts and write explanatory note on any two of them.

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## **UNIT 2 FARM RECORD DESIGNS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Sample of Farm Record for Crop Farm
    - 3.1.1 Cropping Record
    - 3.1.2 Machinery and Equipment use Record
    - 3.1.3 Labour Record
    - 3.1.4 Chemical Input Use Record
    - 3.1.5 Harvest Record
    - 3.1.6 Sales Records
  - 3.2 Sample of Farm Record for Poultry
    - 3.2.1 Poultry Feed Record
    - 3.2.2 Other Costs Record
    - 3.2.3 Labour Record
    - 3.2.4 Flock Number Record
    - 3.2.5 Egg Production Record
    - 3.2.6 Egg Sales Record
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  - 3.3 Sample of Farm Record for Ruminants
    - 3.3.1 Feed Record
    - 3.3.2 Labour Record
    - 3.3.3 Other Costs Record
    - 3.3.4 Livestock Number Record (E.g. Cattle)
    - 3.3.5 Meat (Beef) Sales record
    - 3.3.6 Milk Production
    - 3.3.7 Milk Sales Record
  - 3.4 Principles of Farm Records and Accounts
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

### **1.0 INTRODUCTION**

In unit one of this module we discussed the concepts of farm record and account. Under the concept we explained the meaning of farm record and account. We further listed and explained the importance of keeping farm record and account. Finally, the four major types of farm records and accounts were explained in this unit, effort will be made to design

farm records and accounts for crops and livestock enterprises. We will also identify the principles behind farm records and accounts.

## 2.0 OBJECTIVES

By the end of this unit, you should be able to:

- design a farm records and accounts for a named crop enterprise
- design a farm records and accounts for a poultry farmer
- design a farm records and accounts for other enterprise
- state the basic principles of farm records and accounts.

## 3.0 MAIN CONTENT

### Introduction

The design of farm records and accounts combines the records of production and income and expenditure on the farm. The nature of the design will depend on a number of factors, which among others include:

- The type of crop enterprise
- Type of livestock enterprise
- Interest of the farmers or farm managers.

Generally, any design adopted should be simple, precise and comprehensive enough to accommodate all necessary information about the enterprise. A typical farm record and account is normally presented in columns as shown below:

Column i	Column ii	Column iii	Column iv	Column v

### 3.1 Sample of Farm Record and Account for Crop Enterprise

Some of the essential records in a crop enterprise include:

- Cropping record
- Machinery and equipment used record
- Labour record
- Chemical input used record
- Crop harvest record
- Crop sales record

### 3.1.1 Cropping Record

Some of the essential columns in a cropping record include:

- Column i      Types of crop
- Column ii     Date of planting
- Column iii    Quantity of seed planted
- Column iv    Crop yield (bags or kg e.t.c)
- Column v     Remarks (if there is any)

### 3.1.2 Machinery and Equipment Use Record

The essential columns that should be present in this type of record include:

- Column i      Date of operation
- Column ii     Type of operation
- Column iii    Type of machinery and equipment used
- Column iv    Total area covered (Hectares)
- Column v     Cost of service (Naira)

### 3.1.3 Labour Record

Labour used record should be designed to have the following columns:

- Column i      Date of operation
- Column ii     Types of operation
- Column iii    Amount of hired labour used (No.)
- Column iv    Amount of family labour used (No.)
- Column v     Total amount of labour used
- Column vi    Wage rate (Naira)
- Column vii   Total cost of hired labour (Naira)
- Column viii  Total value of family labour (Naira)

### 3.1.4 Chemical Input Use Record

The essential columns that must be present in this type of record include:

- Column i      Date of application
- Column ii     Types of fertilizer or agro-chemicals
- Column iii    Quantity applied



- Column iv Cost per unit (naira)
- Column v Total cost (Naira)

### **3.1.5 Harvest Record**

- Column i Date of harvest
- Column ii Quantity harvested
- Column iii Quantity of crop after drying and threshing of milling

### **3.1.6 Sales Record**

A typical sales record should have the following columns:

- Column i Date
- Column ii Quantity sold (kg)
- Column iii Price per unit (Naira)
- Column iv Total sales (Naira)
- Column v Quantity given out as gift (kg)
- Column vi Value of the gift (Naira)

## **3.2 Sample of Farm Record and Account for Poultry Enterprise**

Some of the essential records in a poultry enterprise include the followings:

- Feed record
- Other cost record
- Flock number record
- Egg production record
- Egg sales record
- Chicken sales record

### **3.2.1 Poultry Feed Record**

Some of the essential items under poultry feed records include the followings:

- Column i Date of purchase
- Column ii Description of feed
- Column iii Weight in kg
- Column iv Price per unit
- Column v Total value (Naira)

### 3.2.2 Other Costs Records

All other costs apart from feed which carries the major aspect of poultry running cost can be grouped into one item. The essential columns under this record include the following:

- Column i Date
- Column ii Description of items
- Column iii Quantity of items
- Column iv cost of items

### 3.2.3 Labour Record

Labour record may have a separate heading or if the farmer desires it can be presented along other costs. If separated, it should have the following columns:

- Column i Date of operation
- Column ii Type of operation
- Column iii Amount of labour used (Hired/family)
- Column iv Total amount of labour used
- Column v Wage rate (naira)
- Column vi Total cost of hired labour (naira)

### 3.2.4 Flock Number Record

The essential columns under flock number record include the following:

- Column i Date
- Column ii No. of birds at the beginning
- Column iii No. of dead birds
- Column iv No. of birds removed
- Column v No. of birds remaining
- Column vi No. of birds added
- Column vii No. of birds in hand

### 3.2.5 Egg Production Record

Egg production records are essential if only layers are involved. Some of the important columns under this record include the following:

- Column i Date of collection
- Column ii No. of eggs collected

- Column iii No. of bad eggs
- Column iv Total number of good eggs

### **3.2.6 Egg Sales Record**

Sales of eggs are an important record that must be kept in poultry enterprise that involves layer's production. The essential columns that must be present include the following:

- Column i Date
- Column ii No. of eggs sold (crates or dozens)
- Column iii Total value of eggs sold (naira)

The eggs may be sorted into small and large sizes in which case there will be separate columns for them under the number sold and the value of eggs sold.

### **3.2.7 Chicken Sales Record**

Record of chicken either broiler; cockerel or spent layers must be properly kept. The essential columns under this record include the followings:

- Column i Date
- Column ii Number of birds sold
- Column iii Total value of birds sold (naira)

## **3.3 Sample of Farm Records and Accounts for Other Livestock (Ruminant) Enterprise**

The type of farm records and accounts kept under ruminant enterprise will depend on the type of the animal produced – sheep and goat, beef cattle, dairy cattle, e.t.c. Generally, the following records and accounts can be identified in a comprehensive livestock enterprise embracing meat and milk production:

- Feed record
- Labour record
- Other costs record
- Livestock number record
- Meat (beef) sales record
- Milk production record
- Milk sales record

### 3.3.1 Feed Record

The important columns under feed record include:

- Column i Date
- Column ii Description of feed
- Column iii Weight of feed (kg)
- Column iv Price per unit
- Column v Total value (Naira)

### 3.3.2 Labour Record

Labour record under ruminant production is similar to the labour records under poultry production. The essential columns under such records include:

- Column i Date
- Column ii Type of operation
- Column iii Amount of labour used (hired/family)
- Column iv Total amount of labour used (Manday)
- Column v Total cost of hired labour (Naira)

### 3.3.3 Other Costs Record

This is also similar to other costs under poultry production. Such records include:

- Column i Date
- Column ii Description of items
- Column iii Quantity of items
- Column iv Cost of items

### 3.3.4 Livestock Number Record (E.g. Cattle)

The essential columns include:

- Column i Date
- Column ii No. of cattle at the beginning
- Column iii No. of dead cattle
- Column iv No. of cattle removed
- Column v No. of cattle remaining
- Column vi No. of cattle added/born

- Column vii No. of cattle at hand

### 3.3.5 Meat (Beef) Sales Record

The design of this record depends on whether the cattle is sold live or slaughtered. The suggested formats are presented below:

- Column i Date
- Column ii Number of cattle sold or
- Column iii Quantity of beef sold (kg)
- Column iv Total value of cattle/beef sold (Naira)

### 3.3.6 Milk Production

If the ruminant enterprise involved dairy production, milk production record is very essential. Some of the important columns under this record include:

- Column i Date
- Column ii Number of cattle milked
- Column iii Total quantity of milk (litres)

### 3.3.7 Milk Sales Record

The design of milk sales record should have the following Columns:

- Column i Date
- Column ii Quantity of milk sold (Bottle/ltr.)
- Column iii Total value of milk sold (naira)

## 3.4 Principles of Farm Records and Accounts

The general principles guiding the keeping of farm records and accounts include the following:

- i. Farm records and accounts must be comprehensive, neat and accurate: All records and accounts must be comprehensive enough for people to understand. The record must be neatly kept and must also be accurate. Since account involves the use of figures, it must be properly recorded.
- ii. Another important principle of farm records and accounts is that the record of all transactions must be kept immediately. Due to loss of memory if records of transactions are not kept immediately, there is the tendency for the farmer to forget some

of the transactions and this will make the record for the day incomplete. Omission of an important transaction may affect some major decisions on the farm.

- iii. Another important principle of farm records and accounts is that all income and expenditure must be recorded in cash account. This must be recorded on daily bases to give on the spot information about the progress of the farm business.

### **SELF ASSESSMENT EXERCISE**

List and explain four factors that will guide a farmer in the design of a farm record and account for a particular farm enterprise.

## **4.0 CONCLUSION**

In this unit, you have learnt about the various designs of farm records and accounts that can be used in farm enterprise. Samples of farm records and accounts were designed for crop farm, poultry farm and cattle production. It is generally agreed that no one acceptable method can be used in presenting farm records and accounts. The design or method adopted depends on a number of factors. The general principles guiding the use of farm records and accounts were also highlighted.

## **5.0 SUMMARY**

You have learnt in this unit that:

- The design of farm records and accounts depends on a number of factors among which include: the type and size of crop or/and livestock enterprise, the choice of farmer or farm manager and the complexity of the farm.
- The various items under a typical crop farm record and account include: crop population, machinery and equipment, labour, chemical used, harvest and sales.
- In a poultry production enterprise the essential farm record and account identified include: Feed, labour, other costs, flock number, chicken sales, egg production and egg sales.
- For other livestock like cattle, important items in a typical farm records and accounts include: Feed, labour, other costs, livestock population, meat sales, milk production and milk sales.

## 6.0 TUTOR-MARKED ASSIGNMENT

Design farm records and accounts for:

- a. A named crop
- b. A named livestock

**Note:** Prepare your designs in a tabular form.

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## **UNIT 3      BENEFIT–COST                      ANALYSIS                      OF AGRICULTURAL PROJECT**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Costs and Benefits
  - 3.2 Classification of Costs and Benefits
  - 3.3 Identification of Costs
  - 3.4 Identification of Benefits
  - 3.5 Analysis of Costs and Benefits
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
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### **1.0 INTRODUCTION**

In unit 2 of this module, we discussed farm records and accounts designs. Sample of three farm enterprises were taken. We designed farm records and accounts for a crop farm, poultry enterprise and cattle production. In Unit 2, we also explained the basic principles guiding the keeping of farm records and accounts. This unit of the module is devoted to discussing benefit – cost analysis of agricultural enterprises.

### **2.0 OBJECTIVES**

By the end of the unit, you should be able to:

- identify benefits in agricultural projects
- identify costs in any farm enterprise
- define benefits in agricultural project
- define costs in agricultural project
- classify the various items and operations in agricultural activities into benefits and cost.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Costs and Benefits**

Benefits mean any increase in production or any gain in goods, materials and services which emanate from the project.



Cost means the expenditure or consumption of goods, materials and services for the construction and maintenance of the project.

Benefit – cost analysis is the term used to refer to the decision – making process for the production of public goods (agricultural goods). In this type of analysis the benefits and costs of agricultural project are calculated and compared. The project is economically acceptable only if its benefits are greater than or equal to its costs.

If the benefits associated with any agricultural good are greater than its costs, then it is also true that the ratio of the benefits of the project to its costs is greater than one. The ratio of the benefits to the costs of a project is called the benefit – cost ratio. Any agricultural project is acceptable as long as its benefit – cost ratio is greater than one.

### **3.2 Classification of Costs and Benefits**

Benefits and costs can be divided into two types:

#### **a. Intangible**

These are benefits or costs to which no monetary value can be assigned; e.g. benefit from prevention of loss of lives as a result of flood control; reduction in yellow fever as a result of constructing a canal, e.t.c. In the case of intangibles these should be expressed in qualitative terms e.g. number of people affected or size of areas involved, e.t.c.

#### **b. Tangible**

Tangible benefits and costs are those which can be expressed in monetary terms. Tangible benefits and costs can be further subdivided into primary (direct) and secondary (indirect).

##### **(i) Primary (Direct) Benefits and Costs**

Primary benefits represent the value of the immediate goods and services which emanate from the project e.g. in irrigation, it is the increase in the annual crop production.

Primary costs on the other hand, represent the value of the materials and services used for undertaking the project. Primary costs sometimes can be further subdivided into project costs and associated costs.

Project costs represent the value of goods and services used for the establishment, maintenance and operation of the project.

Associated costs are those incurred over and above the project costs in order to make the expected benefits accessible to the beneficiaries.

### (ii) Secondary (indirect) Benefits and Costs

Secondary benefits represent the added value over and above the immediate products and services which the project induces e.g. in irrigation project, they are the increases in the earnings of processing, manufacturing and business undertakings resulting from the increase in agricultural production.

Secondary or indirect costs are those incurred in securing the secondary benefits e.g. in irrigation project those costs incurred by the processing, manufacturing, transporting and marketing agencies in handling the increased agricultural output.

In project analysis, the numerical calculation and ranking is usually based on the primary costs and benefits only. Estimation of secondary costs and benefits are difficult and tend to be inaccurate. Therefore, these and other intangible benefits are usually noted but not empirically estimated.

### 3.3 Identification of Costs in Agricultural Projects Cost means the expenditure or consumption of goods, materials and services for the construction and maintenance of the project. In almost all project analysis, costs are easier to identify than benefits.

- i. **Goods and Services:** Costs of goods and services are easier to identify e.g. concrete for irrigation wells, bulldozers for land clearing, e.t.c.
- ii. **Labour:** The labour component of agricultural projects is also easy to identify. The major problem is the valuation especially in case of unskilled and family labour where shadow pricing may be appropriate.
- iii. **Cost of Land:** Proper value to place on land in an agricultural project is often a complicated subject because land markets are not perfect. Three alternatives are used to value the land in the economic analysis of projects – value the land at its purchase price or value the land at its rental cost or value the land at an estimate of the net value of production forgone or opportunity cost of return each year.

- iv. **Taxes:** Taxes are a transfer payment which requires special treatment in project analysis. These are payments from the project to whole society.
- v. **Subsidies:** Subsidies are transfer payment to the project or to the farmers in a project from the rest of the society. A subsidy on fertilizer reduces its cost to the farmer and thereby increases his income. In economic analysis, if subsidy operates to reduce input costs, then we must add the subsidy to the market price of the commodity.

### 3.4 Identification of Benefits in Agricultural Project

Benefits in agricultural projects can arise either from an increased value of output or from reduced costs. The specific forms in which benefits appear are not always obvious and valuation may be difficult.

#### A. Increased Value of Output

The most common of benefits in agricultural projects is an increase in output. This can arise in a number of ways including:

- i. *Greater physical production.* Benefits can arise from increased physical production of a crop or livestock product provided the market and price relationship are such that greater production does not bring a fall in prices.
- ii. *Quality improvement.* A benefit from an agricultural project may take the form of a quality improvement. Most often in agricultural projects, both increased output and quality improvements are expected but it may not always be the case.
- iii. *Changes in form.* Changes can occur in form of grading and processing. This situation generally arises from projects for agricultural industries. Farmers sell paddy to millers who, in turn sell polished rice. The benefits arise from the change in form. Other examples are canning of fruits, grading of fruits, eggs, etc.
- iv. *Changes in location and time of sale.* This type of benefits can arise from projects improving marketing and storage facilities.

#### B. Cost Reduction

In addition to increased value of output, benefits in agricultural projects may be from a reduction in costs, examples are:

- i. *Gains from farm mechanization.* Reduction in costs of production, through mechanization may increase benefits; even total production may not increase provided that any labour displaced can be productively employed elsewhere.
- ii. *Reduced transportation cost.* Better transportation may reduce the cost of moving produce from the farm to the consumers. Such benefits are very common in agricultural marketing projects.
- iii. *Losses avoided.* One kind of cost reduction benefit may arise because of a loss avoided. Examples of such benefits are storage projects, irrigation system, maintenance and soil conservation through prevention of water losses and soil erosion.
- iv. *Other kinds of direct benefits.* Such benefits may come as a result of increased saving capacity of individuals, improve education and training, better health working conditions, e.t.c.

### **3.5 Analysis of Costs and benefits**

#### **A. Costs**

##### **1. Costs of Crop Production**

Some of the costs items under crop production include the followings:

- a) Cost of fertilizers, pesticides, seeds, e.t.c. with any subsidies removed to reflect the true economic price.
- b) Cost of irrigation water other than supplies by project facilities e.g. canal water, private tubewell water, e.t.c.
- c) Farm machinery should be evaluated at rental cost.
- d) Animal power may be treated as a rental cost.
- e) Electricity
- f) Labour cost
- g) Farm improvement
- h) Land should be valued at purchase price
- i) Infrastructures
- j) Credit

##### **2. Costs of Livestock Production**

Animal husbandry is an important part of many farm budgets in Nigeria. Where farm animals exceed a pair of bullocks for draft power, the cost of animal husbandry sector is to be developed.

- a. Land for fields to grow fodder and for pens building
- b. Labour costs for maintenance and production of livestock
- c. Veterinary services and supplies
- d. Concentrates, minerals and salts.

### 3. Project Costs

It is important that all project costs are identified and accurately accounted for.

#### a. Capital costs

All capital costs of the project works are to be listed by items, quantities and unit cost. Some of the capital costs include:

- Replacement costs
- Electrification costs
- Transfer payments such as interest on the investment, custom duties, sales tax, e.t.c.
- Subsidies
- Contingencies = 15 to 20 percent of capital cost
- Land acquisition which is the actual cost of the land

#### b. Operational and Maintenance Costs

These items generally include the following:

- Personnel costs should include all management and labour costs
- Equipment and supplies to run the project
- The cost of energy
- Gas, oil, diesel, e.t.c. to run the vehicle and machinery.

### B. Benefits

#### i. Primary and Tangible Benefits

- *Agricultural production:* Agricultural production should be estimated for each of the two conditions i.e. without project and with project. An analysis period of 25 years is ample for determining the economic worth of an agricultural project.
- *Gross value of production:* Gross Value of Production (GVP) should be determined on the basis of farm-gate prices multiplied by total production year-by-year for the project analysis period.

- *Net Value of Production:* The Net Value of Production (NVP) is the gross value of production less the costs of production other than the costs of the project itself.

## ii. Secondary and Intangible Benefits

- Aside from the additional employment created for farm production there will be many secondary benefits and intangible benefits and that should be enumerated even though they are not quantified and their values are not included in the analysis.

## SELF ASSESSMENT EXERCISE

1. List five examples each of tangible and intangible benefits in agricultural project.
2. List five examples each of tangible and intangible costs in agricultural project.

## 4.0 CONCLUSION

In this unit, we have learnt about the benefit – cost analysis of agricultural project. In our discussion, we have been able to differentiate costs from benefits in agricultural project. We further classified costs and benefits into tangible and intangible. Tangible costs and benefits were further subdivided into primary or direct and secondary or indirect. We equally identified all the various costs and benefits of agricultural project. Those costs were analysed under crop, livestock and projects. While benefits were analysed under agricultural production, gross value of production and net value of production.

## 5.0 SUMMARY

In this unit, we have learnt that:

- Benefits mean any gain in goods, materials and services.
- Costs means expenditure of goods, materials and services
- Intangible benefits or costs carries no monetary value
- Tangible benefits or costs can be expressed in monetary terms
- Primary benefits are the values of goods and services which emanate from the project
- The added value over and above the values of goods and services which emanate from the project are called secondary benefits
- Values of the materials and services used for undertaking the project are called primary costs.
- Secondary costs are costs incurred when securing secondary benefits

- Some of the costs identified in agricultural projects include: labour, goods and services, land, taxes, subsidies, e.t.c.
- Some of the benefits identified in agricultural projects include: increased value of output, greater physical production, quality improvement, changes in form, reduction in costs, e.t.c.

## 6.0 TUTOR-MARKED ASSIGNMENT

- 1a. Define:
  - i. Costs and
  - ii. Benefit of agricultural project
- b. Discuss the two major classes of costs and benefits of agricultural projects.
2. Identify and discuss any four (4) major costs and four (4) major benefits in agricultural projects.

## 7.0 REFERENCES/FURTHER READINGS

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## **UNIT 4    FINANCIAL STATEMENTS**



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### 1.0 INTRODUCTION

Remember that this is the last unit of module 5. This module is devoted to issues related to farm records and accounts. In unit1 we discussed some concepts of farm records. Some of the concepts discussed include: meaning of farm records and accounts, reasons for keeping farm records and the types of farm records. In unit 2, we tried to design farm records and accounts for crop, poultry and other livestock enterprises. In unit 3, we have discussed the benefit - cost analysis of agricultural projects. By now you should be able to explain the meaning of costs and benefits. The unit further classified costs and benefits into tangible or primary (Direct) and intangible or secondary (indirect). The unit also identified the various costs and benefits of agricultural projects.

### 2.0 OBJECTIVES

By the end of this unit, you should be able to:

- define assets
- define liabilities
- prepare balance sheet for a commercial farm
- calculate net worth from balance sheet
- prepare profit and loss account for a commercial farm.

### 3.0 MAIN CONTENT

### 3.1 Assets and Liabilities

#### 3.1.1 Meaning of Asset

Anything of value possess by the business or any claim to value on possession to others. In agriculture farm assets refers to all materials i.e goods and services owned by the farmer and used in the production process.

Assets could be classified into fixed, working and current assets.

#### 3.1.2 Meaning of Liability

Liabilities in accounting mean any claim which people outside business have against the business. In farm business, liabilities refer to goods and services which the farm owes to others.

Liabilities are usually classified into long term liabilities, medium term liabilities and short-term liabilities or current liabilities. The classifications are however, not foolproof as the decision to which class to put a particular asset or liability depend to some extent on the farmer or farm manager. Nevertheless, there are some assets and liabilities that fit neatly into the classes.

### 3.2 Balance Sheet

The best possible measure of capital position of the farm at any given time is shown by the yearly balance sheet. The balance sheet shows the assets and liabilities of the farm business at a specified point in time- usually the last day of financial year.

To illustrate balance sheet or Net worth statement accounts consider the farm business of S.J. Ibitoye Farm Ltd for the year ended 31<sup>st</sup> May, 2007.

#### **Example 5.1 Balance Sheet of S.J. Ibitoye Farm as at 31<sup>st</sup> May 2007.**

**Liabilities**

**Assets**

Current liabilities	N	Current assets	N
Debt due for payment	500	Cash in hand	500
		Stock for sale	1,400
		Acct. receivable	1,100
Medium term liabilities		Working assets	
Debts due for payment in about 2 years	12,900	Feed in stock	500
		Supplies	200
		Harvested crops	9,200
Long term liabilities		Fixed assets	
Mortgages	5,300	Buildings	13,000
Debts for payments in long term	19,900	Machinery & Equip.	15,000
		Land with crops	3,000
		Dairy cow and breeding stock	15,000
Total liabilities	38,600	Total Assets	58,900
Networth	20,300		

$$\begin{aligned}
 \text{Networth} &= \text{Total assets} - \text{Total liabilities} \\
 &= \text{N}58,900 - 38,600 \\
 &= \text{N}20,300
 \end{aligned}$$

### 3.3 Networth or Net Capital

#### 3.3.1 Meaning of Networth

Networth or Net capital is the amount by which total value of assets exceed the total value of liabilities within a period of time. This implies that Networth value is calculated from the balance sheet account. In farm business, networth or net capital is used to determine the overall performance of a farm at a given period of time.

Net capital shows how much the business worth if it has to be sold at that point in time. It is thus the best possible measure of the farmer's financial position and its growth is a direct measure of the growth of the business. It shows at a glance whether or not the farmer is credit worthy. Networth statement is only very useful when compared to past values. The previous values will show whether the farm business is progressing or not.

#### Calculation of Networth from example 5.1

$$\begin{aligned}
 \text{Total assets} &= \text{N58,600} \\
 \text{Total liabilities} &= \text{N38,600} \\
 \text{Networth} &= \text{Total assets} - \text{Total liabilities} = \text{N58,900} - \text{N38,600} = \text{N20,300} \\
 \therefore \text{Networth value} &= \text{N20,300.00}
 \end{aligned}$$

### 3.3.2 Accounting Ratios

The accounting ratios that can be obtained from the statement of balance sheet include.

- a. Net capital ratios (NCR)
- b. Working capital ratio (INCR)
- c. Current capital ratio (CCR)

#### (a) Networth Ratio (NCR)

The net capital ratio is a measure of the degree of safety for the entire business. It is the ratio of total assets to total liabilities. The greater the figure above one the safer the farm business financially.

$$\text{NCR} = \frac{\text{Total Assets}}{\text{Total Liabilities}}$$

From example 5.1,

$$\begin{aligned}
 \text{Total assets} &= \text{N58,900} \\
 \text{Total liabilities} &= \text{N38,600} \\
 &= \frac{\text{N58,900}}{\text{N38,600}} \\
 &= 1.53
 \end{aligned}$$

This figure (1.53) when expressed in ratio is about 1½:1. Which means that assets are about one and a half times the value of liabilities? There is no one acceptable level of financial safety, it is left to individual farmer to determine the safety for his farm business.

#### (b) Working Capital Ratio (WCR)

This is also known as intermediate ratio. Working capital ratio measures the degree of financial safety of the farmer over an intermediate period of time (about 1-3 years).

Mathematically;

$$\text{WCR} = \frac{\text{Working Assets} + \text{Current Assets}}{\text{Medium Term Liabilities} + \text{Current Liabilities}}$$

From example 5.1

1.	Working assets	=	N9,900
2.	Current assets	=	N3000
	Addition of working assets and current assets N9,900 + N3000		
		=	N12,900
3.	Medium term liabilities	=	N12,900
4.	Current liabilities	=	N500

Add No. 3 + No. 4

$$N12,900 + N500 = N13,400$$

$$\therefore \text{WCR} = \frac{N12,900}{N13,400} = 0.96$$

The value (0.96) indicates that the farm is less financially safe in the shorter term than in the long run.

### (c) Current Capital Ratio (CCR)

Current capital ratio measure the ability of the farm to meet current financial obligations. It measures the degree of solvency of the farm business.

Mathematically,

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

From table 5.1

$$\begin{aligned} \text{Current assets} &= \text{N}3000 \\ \text{Current liabilities} &= \text{N} 500 \\ \text{CCR} &= \frac{\text{N} 3000}{\text{N} 500} \\ &= 6 \end{aligned}$$

The current capital ratio 6:1 means that the farm can meet its current financial obligations six times over. This figure can be compared with previous figures for better judgment about the performance of the farm.

### SELF ASSESSMENT EXERCISE 1

The Balance sheet statement of S. Ibitoye farms Ltd as at 31<sup>st</sup> December, 2006 is given as follows:

Valuation of livestock and crops	N10,000
Machinery and equipment	N1000

Raw materials	N500
Debt receivable	N600
Cash in hand	N2000
Debts payable	N1000
Loans	N500
Bank overdraft	N1000

- a. Use the information above and draw up a balance sheet account
- b. From the account prepared, calculate:
  - (i) Networth or Net capital
  - (ii) Net capital ratio(NCR)

### Hints

Note that total assets	= N14,500
Total liabilities	= N2,500
Networth	= N12,000

## 3.4 Profit and Loss Account

The ultimate goal of any business is to make profit. One of the best ways of assessing how well the business is progressing is by preparing a profit and loss account for the business.

There are three essential components of profit and loss account:

### A. Total Product on Return

This is recorded as income or receipts or credit in a profit and loss account. It is the income obtained from sales and other sources together with valuation on hand at the end of accounting period.

Some of the essential items under this component include:

- Closing valuation of output resources
- Income during the year
- Debtor at the end of the year

### B. Total Expenditure

This is recorded as purchases or expenses or debts in a profit and loss account. It is the sum of the expenditure items and valuation of the input resources at the beginning of accounting period.

Some of the essential items under this component include:

- Opening valuation of input resources
- Expenses during the year.

### C. Profit or Net Farm Income

Net farm income is the amount by which the value of total product produced in the accounting period exceed the value of total resources used during the same period i.e

Profit = total value of product – total expenses. It is regarded as profit if the total value of product is more than the total expenses. It is however regarded as a loss if total expenses are more than the total value of product. Profit is recorded under debt while loss is recorded under income.

#### Example 5.2: Profit and Loss Account of S. Ibitoye Farms as at 31<sup>st</sup> May, 2007.

<b>Debt (Expenses)</b>	<b>N</b>	<b>Income Valuation</b>	<b>N</b>
Opening valuation	3,200	Closing valuation	11,600
Day old chicks	1,400	Eggs	6,000
Seeds	1,200	Cull Birds	4,000
Feeds	1,100	Other sales	4,000
Fertilizer	1,800	Home use	3,100
Labour	1,100	Loss	-
Depreciation	1,300		
Miscellaneous	1,700		
Sub total	12,800		
Profit	15,900		
<b>Grand total</b>	<b>28,700</b>	<b>Grand total</b>	<b>28,700</b>

### SELF ASSESSMENT EXERCISE 2

Prepare a profit and loss account for Mal. Bello Farm as at 31<sup>st</sup> May... from the following information:

i.	Maize seed for planting	N25,000
ii.	Fertilizer used	N14,800
iii.	Pesticides	N20,000
iv.	Purchases of yam seed	N50,000
v.	Tractor hire	N60,000
vi.	Transport cost	N10,000
vii.	Workers wages	N40,000
viii.	Sale of maize cobs	N250,000
ix.	Yam tubers sold	N200,000
x.	Opening valuation	N440,000

xi. Closing valuation N200,000

#### 4.0 CONCLUSION

In this unit, we have learnt the meaning of assets and liabilities. We also illustrated how we can prepare a balance sheet account. From the statement of balance sheet we calculated the Networth and financial ratios. The financial ratios calculated from balance sheet account included: Net capital ratio, working capital ratio and current capital ratio. We finally illustrated how we can prepare a profit and loss account.

#### 5.0 SUMMARY

In this unit, we have learnt that:

- Farm assets are goods and services owned by the farmer and used in the production process.
- Farm liabilities are goods and services which the farmer owes to other
- Farm assets are classified into three: current, working and fixed assets
- Farm liabilities are classified into three: current, medium and long term liabilities.
- Balance sheet statement contains assets and liabilities of the business at a specified point in time.
- Networth or net capital is total assets minus total liabilities.
- Net capital ratio =  $\frac{\text{Total Assets}}{\text{Total Liabilities}}$
- Working capital ratio =  $\frac{\text{Working Assets} + \text{Current Assets}}{\text{Medium Term Liabilities} + \text{Current Liabilities}}$
- Current capital ratio =  $\frac{\text{Current Assets}}{\text{Current Liabilities}}$
- Profit and loss account contains income and expenses statement of a business over a given period of time.
- The three main components of profit and loss account are:- expenditure, income and profit.
- In profit and loss account, opening valuation and profit are recorded under expenditure column while closing valuation and loss are recorded under income column.

#### 6.0 TUTOR-MARKED ASSIGNMENT



1. Write explanatory notes on the importance of the following terms in farm accounting:

- a. Networth or Net Capital
- b. Net Capital Ratio (NCR)
- c. Working Capital Ratio (WCR)
- d. Current Capital Ratio (CCR)

2a. Prepare a profit and loss account for St. Joseph Farms for the year ending 31<sup>st</sup> December...using the following information:

i.	Cost of maize seeds	₦1,500
ii.	Cost of fertilizer	₦ 1,600
iii.	Cost of insecticides	₦ 1000
iv.	Tractor Hiring	₦ 1000
v.	Cost of Herbicides	₦ 1,200
vi.	Cost of cassava stem	₦ 1,300
vii.	Sales of maize	₦ 30,000
viii.	Sales of yam tuber	₦ 10,500
ix.	Sales of cassava tubers	₦ 15,000
x.	Transportation cost	₦1,500
xi.	Cost of processing cassava tubers	₦ 2,500
xii.	Sales of cassava stems	₦ 2,500
xiii.	Wages of workers	₦ 8000
xiv.	Miscellaneous expenses	₦ 2000
xv.	Maize consumed	₦ 500
xvi.	Yam consumed	₦ 8,000
xvii.	Opening valuation	₦ 45,000
xviii.	Closing valuation	₦ 15,000

2b. What is the net profit or loss of the farm?

## 7.0 REFERENCES/FURTHER READINGS

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