



**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**SCHOOL OF AGRICULTURAL SCIENCE**

***COURSE CODE: AEA 503***

***COURSE TITLE: ADVANCED AGRIBUSINESS  
MANAGEMENT***



**MAIN  
COURSE**

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## **MODULE 1 AGRICULTURE AND BUSINESS**

- Unit 1 Meaning of Agriculture and Business
- Unit 2 Nature of agricultural Products
- Unit 3 Types of business and products
- Unit 4 Characteristics of Agricultural Products

### **UNIT 1 MEANING OF AGRICULTURE AND BUSINESS**

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- 4.0 Conclusion
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#### **1.0 INTRODUCTION**

The word agriculture indicates plowing a field, planting seed, harvesting a crop, milking cows, or feeding livestock. Until recently, this was a fairly accurate picture. But today's agriculture is radically different.

Agriculture has evolved in to agribusiness and has become a vast and complex system that reaches for beyond the farm to include all those who are involved in bringing food and fiber to consumers. Agribusiness include not only those that farm the land but also the people and firms that provide the inputs-seed, chemicals, credit etc; process the output e.g. milk, grain, meat etc; manufacture the food products e.g. ice cream, bread, breakfast cereals etc; and transport and sell the food products to consumers e.g. restaurants, supermarkets.

Initially when agriculture was the major venture in agribusiness, it was easy to become a farmer, but productivity was low. Most farmers produced at subsistent level, which is producing what is enough for them and their families with little or nothing to sell. The implication of

this was that most farmers were nearly self-sufficient. They produced most of the inputs they needed for production, such as seed, draft animals, feed and simple farm equipment. Farm families processed the commodities they grew to make their own food and clothing. They consumed or used just about everything they produced. The small amount of output not consumed on the farm was sold for cash. These items were used to feed and cloth the minor portion of the country's population that lived in villages and cities.

## **2.0 OBJECTIVES**

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

- define and explain the meaning of agriculture and agribusiness
- describe the origin of Agribusiness
- differentiate forms of business organisations
- state the peculiar characteristics of agricultural products.

## **3.0 MAIN CONTENT**

### **3.1 Meaning of Agriculture, Business and Agribusiness**

A good understanding of the meanings of agriculture and business is a veritable tool for adequate knowledge in agribusiness because agribusiness derives its name from agriculture and business. Agriculture can be defined as the production of food, feed, fibre and other products by the systematic growing and harvesting of plants and rearing of animals to sustain life. Agriculture deals with farming and/or raising livestock.

### **3.2 Definition of Business**

In simple words "business means the state of being busy". Broadly, business involves activities connected with the production of wealth. It is an organised and systematised human activity involving purchase of goods and services with the object of selling them at a profit. Business is involved with buying and selling goods, manufacturing goods or providing services in order to earn profit.

If we combine the definitions of agriculture and business together, Agribusiness can therefore be defined as the organised and systematic ways of food, feed and fibre productions and rearing of animals to sustain life.

### 3.3 Classification of Business

A business can be classified based on the basis of

(i) **Forms of ownership**

1. Sole proprietorship
2. Partnership
3. Corporation
4. Cooperative

(ii) **Types of Businesses**

1. Agribusiness
2. Financial businesses
3. Marketing businesses
4. Real estate businesses
5. Information businesses
6. Service businesses
7. Transportation businesses
8. Industrial businesses
9. Utility business

### 3.4 Types of Small Businesses

With the exception of Government, most of the small businesses can be classified as the following types

1. Production
2. Retailing
3. Distribution
4. Personal services
5. Professional services
6. Financial
7. Franchising

1. **Production:** This classification includes all types of production including agricultural production of crops and livestock, as well as forestry.
2. **Distribution:** This classification refers to those businesses, which do not make anything but which bring the goods and services to the consumer or user. This includes such activities as packaging, labeling, transporting, refrigerating, freezing, processing, storing,

- and performing any service necessary to prepare the goods or to provide the service to eventual consumer.
3. **Retailing:** Although often included as a phase of distribution, retailing is listed as a separate category because there are a large number of persons employed in retailing. Obviously it represents one of the best opportunities for the potential entrepreneur. Retailing is that stage of distribution, which deals with the consumers. Examples of retailers are grocers, self-service stores, florists, agricultural input retailing.
  4. **Personal services:** The service business is those; which do not primarily supply goods to the public, but instead perform a service. Goods may be used to perform the service but they are of secondary importance. Examples of personal service are hotels, restaurants, agro-service centers.
  5. **Professional services:** Some type of services, in order to protect the public, requires considerable training on the part of those offering the service. Usually those professional services must have a formal education and rigid examinations before receiving licenses to offer their services to the public. Examples of those offering services are investment brokers, insurance agents etc.
  6. **Financial:** Financial businesses are usually service-oriented but since they deal primarily with the loaning or investing of money or the equivalents of money (stocks, bonds, property rights, etc) a separate category describes them best. Examples of financial services are commercial banks, insurance companies, thrift and loan societies etc.
  7. **Franchising:** Franchising is a system for selectively distributing goods or services through outlets owned by the franchisee. Basically, a franchise is a patent or trademark, license, entitling the holder to market particular products or services under a brand name or trademark according to prearranged terms and conditions. The franchiser is the owner of his or her own business (the franchisee) is likely to be more diligent and strive harder for success than the hired manager of a company-owned outlet. Since franchising is form of selective distribution, the typical franchise agreement prohibits the franchise from setting up competing outlets within the franchise area. Examples of franchise services are diet services, quick-service food-drive inns like fried chicken.

### 3.5 Forms of the Business Organisations

There are three basic forms of business organisation methods: the sole proprietorship, the partnership, and the corporation. With only a few limited exceptions, any type of business venture can use any form of business organisation. The factors that will affect the business form chosen are:

1. Ease of formation
2. Exposure to financial risk
3. Ability to raise capital
4. Tax treatment of income
5. Continuity of business upon the death of owner.

### **3.6 Roles of Entrepreneur**

Many economic theories emphasise the significant role played by individual entrepreneurs as they combine talents, abilities and drive to transform resources into profitable undertakings. Joseph Schumpeter was the first major writer to highlight the human agent in the process of economic development. He believed that the economy was propelled by the activities of persons who wanted to promote new goods and new methods of productions or to exploit a new source of materials or new market not merely for profit but also for the purpose of creating. Likewise, Arthur W. Lewis contended that economic growth was bound to be slow unless there was an adequate supply of entrepreneurs looking out for new ideas, and willing to take the risk of introducing them. The relation between self-sustained growth of an economy and entrepreneurship was further discussed by W.W. Rostow when he claimed that, “economic growth was the result of an interesting process involving the economic, social and political sectors of society, including emergence of corps of entrepreneurs who are psychologically motivated and technologically prepared regularly to lead the way in introducing new production functions in the economy”. As it is, experts as have variously described the entrepreneur.

1. A person who innovates
2. One who allocates and manages the factors of production and bears risk
3. One who has ability to perceive latent economic opportunities and devise their exploitation
4. An individual, who conceives the ideas of business, design the organisation of firms, accumulates capital, recruits labour, establishes relations with supplier, customers and the government and converts the conception into a functional organisation.
5. The supplier of resources, supervisor and coordinator and ultimate decision maker.



## **4.0 CONCLUSION**

In this unit, you have learnt the meaning of agriculture and business. You also learnt the different forms of business ownership as well as the classification of small businesses.

## **5.0 SUMMARY**

Agriculture is defined as the production of food, feed, fibre and other products by the systematic growing and harvesting of plants and rearing of animals to sustain life. Business is involved with buying and selling goods, manufacturing goods or providing services in order to earn profit. Forms of business ownership are sole proprietorship, partnership, corporation and cooperative. The roles of entrepreneur include innovation, coordination of other factors of production, bearing of risks and decision making.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Define agriculture and business
2. Mention the four forms of business ownership
3. Mention and discuss the roles of entrepreneur

## **7.0 REFERENCE/FURTHER READING**

- Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.
- Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.

## **UNIT 2 NATURE OF AGRICULTURAL PRODUCTS**

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- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Nature of Agricultural Products
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

Unlike manufacturing products, agricultural products have peculiar characteristics which affect their lifespan, their transportations well as their prices. Agribusiness owners must understand these characteristics and their implications on decision making on production and marketing activities.

### **2.0 OBJECTIVES**

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

- mention and explain the nature of agricultural products
- explain the implications of the nature of agricultural products on transportation and demand and supply of agricultural products
- differentiate between agricultural products and products from other sectors.

### **3.0 MAIN CONTENT**

#### **3.1 Nature of Agricultural Products**

##### **(a) Perishability**

Agricultural products are highly perishable being highly susceptible to adverse weather conditions, such as excessive heat, dryness or wetness. They easily deteriorate under unfavourable conditions and loose value.

They therefore have to be disposed off quickly either by consumption or sale. Farmers cannot easily keep them to take advantage of better prices later.

**(b) Bulkiness**

Agricultural products are very bulky, that is, they have much more volume or weight or size than their real value. The volume/value ratio is very high. For example yams, potatoes, rice, gari and even vegetables occupy a lot of space, though their monetary value may be small. Industrial products are usually less bulky. This has implication for storage and transportation and the final price of the product.

**(c) Differentiation**

Agricultural products are not homogeneous; rather, they are differentiated physically in size and shape, for example yams, potatoes, oranges and eggs. They may be differentiated in quality e.g. palm oil and gari in which we have different grades. They may also be differentiated by customer affinity in which case a consumer sticks to only a retailer for his purchase of say gari or rice.

**(d) Substitution**

Agricultural products have zero or negligible elasticity of substitution. Food products are agricultural products. There are only a few synthetic products that may be used as food in special circumstances. Items of foodstuffs may be substituted one for the other, e.g. cocoyam may be substituted for white yams in making pounded yam. Rice and maize are close substitutes in the making of pottage ("tuwo") but they are not perfect substitutes. Agricultural products therefore have negligible elasticity of substitution.

**(e) Raw Materials**

Agricultural products are raw materials for agro-allied industries. When industrial demand competes with domestic demand, prices can become raised especially in adverse production conditions.

The nature of agricultural products and their production processes, as discussed above, make their marketing to be unique and different from the marketing of industrial products. Industrial products are not easily perishable, not as bulky as agricultural products and are not seasonal;

they are more homogeneous than agricultural products and often have acceptable substitutes. Prices do not therefore fluctuate in industrial marketing as in agricultural marketing.

#### **4.0 CONCLUSION**

In this unit, you have learnt about the nature of agricultural products and its implications on transportation and their demand and supply.

#### **5.0 SUMMARY**

Agricultural products, unlike manufacturing products are primary products; hence, they command low prices unless they are processed. Some of them are bulky thus; transportation from the farm to the market is often a problem, a condition that compels farmers to sell their products at the farm gate at a relatively low price to the middle men.

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

1. Mention the nature of agricultural products.
2. What are the implications of the nature of agricultural products on prices, demand and supply?

#### **7.0 REFERENCE/FURTHER READING**

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

## **UNIT 3 MEANING, IMPORTANCE AND DIMENSIONS OF AGRIBUSINESS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
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  - 3.2 Sectors of Agribusiness
  - 3.3 Importance of Agri-business
  - 3.4 Dimensions of Agri-business
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

Agribusiness has grown and translated from farming to all businesses that is agro-based, that requires stakeholders to know the nitty-gritty of the business and the requirements for a successful agribusiness in less developed countries.

### **2.0 OBJECTIVES**

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

- define agribusiness
- describe the origin of agribusiness
- mention and discuss the sectors and dimensions of agribusiness
- state the importance of agribusiness

### **3.0 MAIN CONTENT**

#### **3.1 Definition and Origin of Agribusiness**

Agribusiness is the sum total of all operations involved in the manufacture and distribution of farm supplies, production activities on the farm, storage, processing and distribution of farm commodities and items made from them.

John H. Davis of Harvard University first used the term agribusiness in 1955. In 1980s it was given three connotations:

- (1) Synonymous with term agriculture,
- (2) Synonymous with agricultural economics and
- (3) A modified concept of agriculture, excluding farming, or the off-farm aspects of agriculture.

At present, agribusiness is defined as all business enterprises that sells to farmers/traders/ consumers. The transaction may involve either an input or a product or service and encompasses items such as:

1. Productive resources (feed, seed, fertilizer, equipment, energy, pesticides, machinery, etc.)
2. Agricultural commodities – (raw and processed commodities of food and fibre)
3. Facilitative services (credit, insurance, marketing, storage, processing, transportation, packing, distribution, consultancy, soil testing etc.).

### **3.2 Sectors of Agribusiness**

Agri-business involves three sectors:

1. Input sector: It deals with the supply of inputs required by the farmers for raising crops, livestock and other allied enterprises. These include seeds, fertilizers, chemicals, machinery and fuel.
2. Farm sector: It aims at producing crops, livestock and other products.
3. Product sector: It deals with various aspects like storage, processing and marketing the finished products so as to meet the dynamic needs of consumers.

Therefore, Agribusiness is sum total of all operations or activities involved in the business of production and marketing of farm supplies and farm products for achieving the targeted objectives.

### **3.3 Importance of Agri-business**

- (a) It deals with agricultural sector and also with the portion of industrial sector, which is the major source of farm inputs like fertilizers, pesticides, machines, processing and post harvest technologies.
- (b) It suggests and directs the government and private sectors for development of sub sectors.
- (c) It contributes a good part of the national economy.

### 3.4 Dimensions of Agri-business

1. It deals with different components of both *agricultural and industrial sector*, their interdependence and influence of one sector on other.
2. It deals with *decision making process* of farm either private or government relation to production and selling aspects.
3. It deals with *strengths and weaknesses of a project* and thereby their viability in competing enterprises.
4. Agri-business is always *market oriented*.
5. Structure of Agri-business is generally vertical and it comprises the following
  - a. Govt. policies and programmes regarding raising of crops or taking enterprises etc.,
  - b. Research and extension programmes of the government.
  - c. Farm supplies or inputs
  - d. Agricultural production
  - e. Processing
  - f. Marketing of agricultural products

### 4.0 CONCLUSION

Agribusiness is the sum total of all operations or activities involved in the business of production and marketing of farm supplies and farm products. Agribusiness contributes significantly to growth and development of national economy.

### 5.0 SUMMARY

In this study unit, you have learnt that:

The meaning of agribusiness, sectors, importance and dimensions of agribusiness.

There are three distinct sectors (input, farm and product sectors) in agribusiness.

Agribusiness deals with both agricultural and industrial sectors.

### 6.0 TUTOR -MARKED ASSIGNMENT

1. Define agribusiness and its importance to the national economy.
2. State and discuss the dimensions of agribusiness.

## 7.0 REFERENCES/FURTHER READING

- Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.
- Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.
- Johl, S.S. & Kapur, J.R. (2006). *Fundamentals of Farm Business Management*. New Delhi: Kalyani Publishers.
- Olukosi, J.O. & Erhabor, P.O. (1988). *Introduction to Farm Management Economics: Principles and Applications*. Zaria: AGITAB Publishers Ltd.



## UNIT 4 SCOPE OF AGRIBUSINESS

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  - 3.1 General Scope of Agri-business
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  - 3.3 Nature of successful agribusiness
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### 1.0 INTRODUCTION

Agribusiness has a wide scope. It deals with agricultural sector and also with the portion of industrial sector, which is the major source of farm inputs like fertilizers, pesticides, machines, processing and post harvest technologies. Agribusiness provides a wide scope of investment opportunities which ranges from production to marketing of agricultural products and agro allied products.

### 2.0 OBJECTIVES

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

- explain the general scope of agribusiness
- describe the scope of agribusiness in Nigeria and other LDCs
- identify investment opportunities in agribusiness in Nigeria
- identify determinants of successful agribusiness in Nigeria.

### 3.0 MAIN CONTENT

#### 3.1 General Scope of Agri-business

1. Our daily requirements of food and fibre products *at desired place at required form and time* come from efficient and hard working of many business personnel in input, farm and food production and also in marketing them. The entire system in brief is called Agribusiness.
2. Agribusiness, of late, is combining the diverse commercial enterprises, using heterogeneous combination of labour, materials, capital and technology.

3. It is a dynamic sector and continuously meets current demands of consumers in domestic and world markets.
4. Agri-business establishment leads to *strengthening of infrastructural facilities* in that area, expansion of credit; raw materials supply agencies, adoption of modern technology in production and marketing of agricultural products.
5. Agri-business provides crucial *forward and backward linkages (Vertical* (Backward linkage includes supply of inputs, credit, production technologies, farm services etc. A forward linkage includes storage, processing, transportation and marketing aspects.)
6. Agri-business generates potential *employment opportunities*.
7. It adds value to products and thereby increases the net profits.

### **3.2 Scope for Agribusiness in Nigeria**

1. Nigeria is endowed with favourable climatic conditions which facilitates production of tropical agricultural commodities.
2. Supply of agricultural inputs like feed and fodder, inorganic fertilizers and organic fertilizers.
3. Biotechnology applications in agriculture have vast scope in production of seed, bio-control agents, industrial harnessing of microbes for bakery products.
4. Export can be harnessed as a source of economic growth. The products line include cereals, pulses, oilseeds and oils, oil meal, spices and condiments, fruits and vegetables, flowers, medicinal plants and palm oil and so on.
5. At present agricultural products are rarely being processed, hence processing of agricultural products at secondary and tertiary levels presents vast opportunities in agribusiness industry.
6. The livestock wealth gives enormous scope for production of meat, milk and milk products, poultry products etc
7. The forest resources can be utilised for production of byproducts of forestry known as Non Forest Timber Products (NFTP).
8. Beekeeping and apiary can be taken up on large scale in Nigeria.
9. Mushroom production for domestic consumption and export can be enhanced with improvement in the state of art of their production.
10. Organic farming has highest potential in Nigeria which will discourage the pesticide and inorganic fertilizer application and their consequences on soil, crops animals and farmers.
11. Seeds, hybrid and genetically modified crops, have the highest potential in Nigeria in the future.
12. Production of vegetables and flowers under green house conditions can be taken up to harness the export market.

13. The enhanced agricultural production throws open opportunities for employment in marketing, transport, cold storage and warehousing facilities, credit, insurance and logistic support services.

Table 1 shows entrepreneurial opportunities in modern day agriculture in Nigeria

**Table 1: Entrepreneurial opportunities in Modern Agriculture**

<b>Farming(on farm)</b>	<b>Product Marketing</b>	<b>Inputs Marketing</b>	<b>Processing</b>	<b>Facilitative</b>
Crop Husbandry	Wholesale	Fertilizer	Milk	Research & Development
Dairy/Poultry/ Sheep and Goat	Retail	Agric. Chemicals	Fruits	Marketing Information
Piggery	Wholesale/ Retail of pigs and pork			
Artisanal fishery				
Aquaculture	Commission Agent	Seeds	Vegetables	Quality control
Rabbitary	Transport	Machineries	Paddy	Insurance
Olericulture (Vegetable Production)	Export	Animal feed	Sugarcane	Energy
Floriculture (Flower production)	Finance	Poultry hatchery	Cashew	
Ornamental plants	Storage	Vet medicines	Coir	
Snailery	Retail	Landscaping	Poultry	
Fodder		Agric. Credit	Cattle	
Sericulture		Custom service	Tannery	
Agro-forestry		Bio-control units	Brewery	
Beekeeping		Bio-tech units		
Mushroom				

### 3.3 Nature of Successful Agribusiness

We have learnt that agribusiness has become very competitive and complex. This is mainly due to changing taste and fashion of the consumers on the one hand, and introduction of substitute and cheaper

and better competitive goods, on the other. The old dictum “produces and sells has changed overtime into “produce only what customers want”. In fact, knowing what customers want is never simple. Nevertheless, a farm operator/farm manager has to give proper thought to this consideration in order to make his business a successful one. The important requisites for success in agribusiness are:

1. **Clean objectives:** Determination of objectives is one of the most essential pre requisite for the success of business. The objectives should be realistic and clearly defined. Then, all the business efforts (physical and mental) should be geared towards achieving the set objectives. As we all know, objectives are destination points for an agribusiness. As a traveller must know where he/she is going, i.e. destination, in the same vein, business managers also must know and have the objectives at their finger tips.
2. **Planning:** In simple words, planning is a pre-determined line of action. The achievement of objectives set is to a great extent a function of the planning. This is in consonance with a common saying he who fails to plan has planned to fail. It is said that it does not take time to do a thing but it takes time to decide what to do and how to do it. Planning is a proposal based on past experience and present trends for future actions. In other words, it is an analysis of a problem and finding out the solutions to solve them with reference to the objective of the farm.
3. **Sound organisation:** An organisation is the art or science of building up systematical whole by a number of but related parts. Just as human frame is build up by various parts like heart, lever, brain, legs etc. similarly; organisation of business is a harmonious combination of men, machine material, money management etc. So that all these could work jointly as one unit, i.e. “the agribusiness”. Organisation is, thus such a systematic combination of various related parts for achieving a defined objective in an effective manner.
4. **Research:** Consumers preferences are changing and onus lies on the entrepreneur in agribusiness to be familiar with the changes and the determinants of consumer preferences. The knowledge of these factors is acquired through market research. Research is a systematic search for new knowledge. Market research enable a business in finding out new methods of production, improving the quality of product and developing new products as per the changing tastes and wants of the consumers.

5. **Finance:** Finance is said to be the life-wire of any business enterprise whether agro-allied or industrially based. Finance is a tool by which productive factors (land, labour, machinery etc) are harnessed brings together for production purpose. Therefore, farmers and others that are involved in Agribusiness should estimate the financial demand of their enterprise and make adequate arrangement for securing the required finance for the enterprise.
6. **Business Location:** One major determinant of the success of agribusiness is the location of the business enterprise. The effects of location on the achievement of objective of profit maximisation is hinged on the fact that it determines the accessibility of the business to the source(s) of raw materials, skill and unskilled labour , nearness to market and enjoyment of both internal and external economies of scale. Therefore, it is of utmost importance for entrepreneurs to select suitable location to site their agro-allied firms. For instance a firm producing palm kernel oil must be located close to where there is availability of palm kernel and good road network for the conveyance of both the inputs and the product and by-product to the market.
7. **Efficient management:** Poor or inefficient management is a major reason always being attributed to business failure. It is therefore necessary for the proprietor to acquire diverse knowledge that will aid his business acumen vis-à-vis his effective and efficient management. To bridge the areas of technical incompetency, the business man must be willing to employ well trained and technical experts. For instance if the agribusiness is feed milling business and the proprietor is not knowledgeable in feed formulation, while learning on the job, he should employ an animal nutritionist. One of the reasons for failure of business often attributed to as their poor management or inefficient management.
8. **Harmonious relations with the workers:** In an agribusiness organisation, the farmer operator occupies a distinct place because he/she is the main living factor among all factors of production. In fact, it is the human factor that makes the use of other non-human factors like land, machine, money etc. Therefore, for successful operation of business, there should be cordial and harmonious relations maintained with the workers/labours to get their full cooperation in achieving business activities.

## 4.0 CONCLUSION

Agribusiness deals with agricultural and industrial sectors. There are many investment opportunities in agribusiness. These include crop and animal production; feed supplies, snailery, apiculture and so on.

## 5.0 SUMMARY

In this unit, you have learnt the meaning, scope and importance of agribusiness.

Entrepreneurial opportunities in agribusiness and determinants of successful agribusiness in less developed countries have also been outlined.

## 6.0 TUTOR- MARKED ASSIGNMENT

1. State the scope of agribusiness in Nigeria.
2. What are the determinants of the growth of agribusiness in Nigeria?
3. List 5 entrepreneurial opportunities in agribusiness in Nigeria.

## 7.0 REFERENCES/FURTHER READING

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

Johl, S.S. Kapur, J.R. (2006). *Fundamentals of Farm Business Management*. New Delhi: Kalyani Publishers.

## **MODULE 2      MANAGEMENT PRINCIPLES IN AGRIBUSINESS**

Unit 1	Concepts of Management and its elements
Unit 2	Planning function of Management
Unit 3	Organisation and Staffing
Unit 4	Directing Function of Management
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Unit 7	Application of Management principles in Agribusiness

### **UNIT 1      CONCEPTS OF MANAGEMENT AND ITS ELEMENTS**

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7.0	Reference/Further Reading

#### **1.0 INTRODUCTION**

Agriculture as a business that is run by different stakeholders involved in it requires different skills in management of the scarce resources involved in the production of goods and services for man. Haven't known the scope of agribusiness and the nature of agricultural products, it is imperative to know how to apply management concepts in agricultural business.

#### **2.0 OBJECTIVES**

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

- define management
- list the elements of management
- explain the concept of management

- state the features of agri-business management

### **3.0 MAIN CONTENT**

#### **3.1 Distinctive Features of Agri-business Management**

The important distinctive features or the principle characteristics of agribusiness are as follows:

1. Management varies from business to business depending on the kind and type of business. It varies from basic producer to brokers, wholesalers, processors, packagers, manufacturers, storage proprietors, transporters, retailers etc.,
2. Agri-business is very large and evolved to handle the products through various marketing channels from producers to consumers.
3. Management varies with several million of farmers who produce hundreds of food and livestock products.
4. There is very large variation in the size of agri-business; some are very large, while many other are one person or one family organisation.
5. Most of the Agri-business units are conservative and subsistence in nature and family oriented and deal with business that is run by family members.
6. The production of Agri-business is seasonal and depends on farm production. They deal with vagaries of nature.
7. Agri-business is always market oriented.
8. They are by far vertically integrated, but some are horizontally integrated and many are conglomerated.
9. There is direct impact of government programmes on the production and performance of Agribusiness.

People in many countries flock to the cities, complicating the problem of food, transportation, distribution and marketing. In the developing new nations, this marks the beginning of a shift from subsistence farming to commercial agriculture. The commercial agriculture can not exist without the support of Agri-business and other industries.

The hungry countries are usually those with the highest percentage of their people in farming. This is because of their farmers are still close to subsistence farming. The role of agricultural economist is to advice farmers on the commodities to be produced and the most economical methods of combining resources so as to maximise profits from the farm.



### 3.2 What is Management?

There is no single definition of management. According to Henry Fayol, the father of principles of management, “To manage is to forecast, to plan, to organise, to command coordinate and to control” Frederick Winslow Taylor defined Management as knowing exactly what you want men to do and then seeing that they do it in the best and cheapest way.

Mary parker, - “Management is the art of getting things done through people”.

P. Drucker, - “Management is a multi-purpose organ that manages a business, manages manager and manages worker and work”.

George Terry, - “Management is a distinct process consisting of planning, organising actuating and controlling performance to determine and accomplish the objectives by the use of people and resources”.

On the premise of the above definitions, we can define management as getting things done through others/subordinates. In other words, it is a process of various functions like planning, organising, leading and controlling the business operations in such a manner as to achieve the business objectives set by the firm. It consists of all activities beginning from business planning to its actual survival.

### 3.3 Concepts of Management

1. Some describe Management as division of the area of responsibility into finance, marketing, production and personnel.
2. Others look at the Management as six M concepts. These are money, market, materials, machinery, methods and manpower. Here the management is conceptualised as effective use of resources available.
3. Another concept is its division into approaches and processes. This includes industrial engineering management, institutional or organisational management and behavioural management.
4. Another concept is functional approach to management.

### 3.4 Functions and Elements of Management

Fayol identifies five of such functions. They are:

1. Planning

2. Organising
3. Directing
4. Co-ordination
5. Control

#### **4.0 CONCLUSION**

Management is applied in all facet of human existence including agriculture thus its knowledge is required in agricultural production, processing and marketing in allocation of scarce resources to increase productivity and profit in agricultural business.

#### **5.0 SUMMARY**

In this unit, you have learnt:

1. Distinctive features or the principle characteristics of agribusiness
2. What is management
3. Concepts of management and
4. Functions and elements of management

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

What is Management?

#### **7.0 REFERENCE/FURTHER READING**

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*. New Jersey: Hall, Inc. A Simon & Schuster Company, Upper Saale River.

## **UNIT 2 PLANNING FUNCTION OF MANAGEME**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Planning
  - 3.2 Importance of Planning
  - 3.3 Types/Levels of Planning
  - 3.4 Steps in Planning Process
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

Planning is the process by which a manager looks to the future and discovers alternate courses of action. Planning describes the adoption of specific programme in order to achieve desired results. It means the selection from among alternatives of future courses of action for the enterprise as a whole and each department with in it. It is determining goals, policies and courses of action and it involves the processes like work scheduling, budgeting, setting up procedures, setting goals or standards, preparing agenda and programming.

In the body of management knowledge, planning is the muscle and it allows the other functions to move in the desired direction. Planning is not a forecast but an action oriented statement.

### **2.0 OBJECTIVES**

At the end of this unit, you will be able to:

- define planning
- state the importance of planning
- identify the types of planning and
- explain the planning process

### **3.0 MAIN CONTENT**

### 3.1 Meaning of Planning

Planning is the process by which a manager looks to the future and discovers alternate courses of action. Planning describes the adoption of specific programme in order to achieve desired results. It means the selection from among alternatives of future courses of action for the enterprise as a whole and each department with in it. It is determining goals, policies and courses of action and it involves the processes like work scheduling, budgeting, setting up procedures, setting goals or standards, preparing agenda and programming.

### 3.2 Importance of Planning

1. Agri-business is a more complex activity.
2. Planning is essential for the business survival and development.
3. Planning reduces risks and safeguards against uncertainty.
4. It helps to achieve the objectives or goals and thereby move the things in a right direction.
5. It improves operational efficiency of resources
6. It is most basic function of management and a requisite to other functions.
7. Planning is an antecedent process. Planning process may be divided into different steps, such that a highest priority will be given to immediate need and later to the less priority needs.
8. After dividing the entire planning process in to different steps, the problems are stated and objectives are framed. These problems and objectives will serve as boundaries for thinking process to prepare a plan of action.
9. While stating problems and objectives certain assumptions should be made depending on situation which may or may not be under the control of management. After stating the objectives and assumptions, the plan of action will be prepared to accomplish objectives and goals.
10. Planning necessitates faithfulness to objectives.

### 3.3 Types/Levels of Planning

In agri-business, planning may be of several types

1. Financial planning
2. Industrial relations planning
3. Research and development planning
4. Physical facilities planning.

### 3.4 Steps in Planning Process

1. **Gathering of facts** and information that have a bearing on the situation
2. **Analysis of** the existing operations in business firm, which will involve analysing what the situation is and problems that are involved.
3. **Forecasting** the future developments by identifying defects in existing plan of firm
4. **Setting of goals**-This is the benchmark for achieving the objectives. Setting of goals may involve interactions with professionals that will examine the current plan and the possible improvements in existing plan)
5. **Preparation of various alternative plans –On the basis of** the existing level of resources various alternative plans should be prepared, out of which the most suitable one will be selected.
6. **Developing a means of evaluating progress**-Means of evaluation of progress as the current plans are being executed should be developed. In the same vein, readjustment process should be outlined.

### 4.0 CONCLUSION

To succeed in life you need planning in all you do. Planning is the first step in business and if you fail to plan, you are bound to fail in your execution of your business. Planning is essential for the business survival and development. Planning also reduces risks and safeguards against uncertainty

### 5.0 SUMMARY

In this unit, you have learnt that:

1. Planning is the process by which a manager looks to the future and discovers alternate courses of action.
2. Importance of planning .
3. In agri-business, planning may be of several types.
4. Steps in planning process.

### 6.0 TUTOR-MARKED ASSIGNMENT

1. Define planning.
2. List the steps involved in planning.

### 7.0 REFERENCE/FURTHER READING

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*.  
New Jersey: Hall, Inc. A Simon & Schuster Company, Upper  
Saale River.

## **UNIT 3 ORGANISATION AND STAFFING**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Organisation
  - 3.2 Purpose of Organisation
  - 3.3 Functions of Organiser
    - 3.3.1 Staffing: (Human Resource Management)
    - 3.3.2 Modes of Staff Recruitment
    - 3.3.3 Selection Process
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

In any business activity, there is always a person who guides and controls its functions. He also co-ordinates and regulates all the factors which are employed in the business activity. Apart from monitoring it, he takes the responsibility of the outcome. We call such a person an entrepreneur (organiser) and the business activity which he is doing is called an enterprise or organisation.

If management is seen as a body of knowledge, then the organisation is a skeleton or framework on which the management is built.

An organisation is referred to as the activities of two or more persons that are concisely coordinated towards a given objective. An organisational structure is effective if it facilitates the contribution of individuals in the attainment of enterprise objectives.

### **2.0 OBJECTIVES**

At the end of this unit, you will be able to:

- explain the meaning of organisation and staffing
- state the purpose of organisation
- mention and explain the functions of organiser
- state the modes of recruiting staff and selection process.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Organisation**

An organisation is referred to as the activities of two or more persons that are concisely coordinated towards a given objective. An organisational structure is effective if it facilitates the contribution of individuals in the attainment of enterprise objectives.

If management is seen as a body of knowledge, then the organisation is a skeleton or framework on which the management is built.

#### **3.2 Purpose of Organisation**

The purpose of organisation in an enterprise involves.

1. The process of identification, classification and grouping up of required activities.
2. Grouping of activities in light of resources and situations.
3. Assigning these activities to positions,
4. Delegation of the authority to different persons,
5. Horizontal and vertical co-ordination of the authority and information relationships to enable them to carryout these activities very effectively and efficiently towards achieving the objectives.
6. Organisation brings co-operation, harmony and integrity among the people.
7. As a part of the organisation function, the agribusiness manager must see that each employee has a role that is clearly defined.

The employees' work goals, the decision to place some one in charge, and the overall goals of the organisation, coupled with the ways in which each person and department relate to each other, comprise the organisational plan. Such a plan allows management to establish accountability for the results achieved; it prevents buck passing and confusion as to who is responsible; and it details the nature and degree of authority that is given to each person as the activities of the firm are accomplished.

The process of organisation starts with staffing and recruitment of persons.

#### **3.3 Functions of Organiser**



1. To determine the jobs to be done by the staff (job description, selecting, allocating & training personnel).
2. Defining the line of activities of the staff.
3. Establishment of relationship among the staff.
4. Selecting and training of personnel in organisation.

### **3.3.1 Staffing: (Human Resource Management)**

Staffing, also known as human resource management is defined as the process of filling the positions in an organisation structure through identifying work-force requirements, inventorying the people available, recruitment, selection, placement, promotion, appraisal, compensation and training of needed people to carry out the business activities very effectively.

Staffing should be based on the need of the enterprise operation and day to day running of the business without any sort of hindrance. On the basis of the need, Managers should determine the number and type of persons to be staffed in the enterprise.

The manager of the firm should develop a strategic staffing plan in such a way that the working by all in a collective way without the feeling of overwork. The staffing plan with specification of the positions / jobs should always thrive to fulfill the set objectives of the firm.

Once the staffing plan is prepared, the duty of the manager is to develop the job description (i.e. the work should be performed by the specific position) in a constructive way so that the qualified people should think that they should not leave the opportunity of working with that enterprise.

Organisation and staffing go side by side. Staffing starts with recruitment of personnel.

Recruitment starts with specification or qualifications of individual who will occupy important positions to carry out the activities of the organisation.

### **3.3.2 Modes of Staff Recruitment**

1. Advertising in news papers.
2. Recruiting through persons who are already working in the organisation.
3. Recruiting through friends.

4. Considering the persons who knock at the doors of organisation, etc.

### **3.3.3 Selection Process**

1. The performance of chosen person on the job is the best criterion.
2. The application of the firm is usually carries information pertaining to personal data of applicant and his educational background, training he has undergone, work experience if any, salary history, special interest of individual if any etc.,.
3. An interview will be conducted through which mental alertness, sense of values, quickness of judging, general orientation, communication skills, degree of professionalism etc., of the applicant will be studied. Besides such mental ability of the individual, language efficiency of persons is also studied.
4. The applicant's academic record usually serves a major indicator for selection process.
5. In highly specialised jobs, the academic record is the best criteria.
6. In the case of managerial positions along with academic record and leadership qualities communication skills assume greater significance.
7. The reference letters submitted by the applicant are of some use, but some managers do not give much importance to such reference letters because applicant submits such letters which are with favourable comment from previous organisation.
8. Examination of physical fitness of individual is most common in any organisation because no organisation will be ready to recruit a sick person.
9. Good organiser selects the person with fairly above average academic record with extracurricular activities which give rise to a good leadership.

## **4.0 CONCLUSION**

An organisation is referred to as the activities of two or more persons that are concisely coordinated towards a given objective. Importance of organisation involves identification and grouping of activities, assigning of activities to specific individuals and delegation of authority. Staffing involves recruitment of different categories of staff on the basis of certain criteria.

## **5.0 SUMMARY**

In this unit, you have been exposed to two functions of management, organisation and staffing. Organisation is regarded as the skeleton of management. Staffing is the main job of human resource unit of a business enterprise.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Explain the meaning and importance of organisation .
2. What are the functions of organiser.
3. State the meaning of staffing and processes that are involved in selecting staff for a named agribusiness enterprise.

## **7.0 REFERENCE/ FURTHER READING**

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*. New Jersey: Hall, Inc. A Simon & Schuster Company, Upper Saale River.

## **UNIT 4 DIRECTING FUNCTION OF MANAGEMENT**

## **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Directing
    - 3.1.1 Functions of Directing
  - 3.2 Orders
    - 3.2.1 Features of Orders
  - 3.3 Motivation
  - 3.4 Leadership
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

Managers as directors know that the successful measure of the output is due to sum of the performance or work output of all those who work under their control in the firm.

It is also true that all employers can not be happy all the time. The good manager would always have good qualities of directing and building leadership that could help his staff to succeed in their work and derive job satisfaction in their work. Good directors always change their styles to bring about the desired changes. The function of directing is compared to HEART of body of management.

### **2.0 OBJECTIVES**

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

- define or explain the direction function of management
- describe the components of direction
- List features of order and importance of leadership.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Directing**

Direction involves motivating, ordering, guiding, leading, executing and supervising the organisation. It is an important management function that makes the people engaged in various positions to move towards the achievement of goals and objectives.

The good manager would always have good qualities of directing and building leadership that could help his staff to succeed in their work and derive job satisfaction in their work. Good directors always change their styles to bring about the desired changes. The function of directing is compared to **heart** of body of management.

### **3.1.1 Functions of Directing**

The direction function of management has the following works:

1. Assigning duties and responsibilities to personnel.
2. Establishing the results to be achieved.
3. Delegating the necessary authority.
4. Creating a desire for success.
5. Supervising that the job is done properly by workers.

### **3.2 Orders**

Orders or instructions are the vehicles for messages with proper direction from top to bottom of an organisation.

#### **3.2.1 Features of Orders**

1. Orders should be very clear and understandable.
2. Generally orders are unidirectional and moves from top to bottom operating units.
3. The timing of orders is crucial i.e. they must be issued when needed and should reach the gross root level workers in time.
4. To have a check whether the orders are converted into action, a feed back report should be the source of orders.
5. Orders vary in form and details depending up on the degree of delegation practiced in the organisation. Some of them are negative, which prohibit certain actions, whereas some orders are positive, prescribing the course of action towards the attainment of objectives.

A firm should be conditioned for effective direction. The manner in which it is organised could facilitate conditioning. Often, it is necessary to keep persons in the organisation, both as individuals and as groups

motivated for proper direction. The workers must also find meaning and purpose in the orders and in implementing the orders.

### 3.3 Motivation

The goal seeking behaviour or goal directing behaviour of individual is called motivation.

All the personnel in the organisation should be reoriented towards achieving the objectives of the organisation. This is a task that is possible but not an easy one.

Certain motivational devices are usually followed to make the direction effective such as rewards for better work, time bound promotions and better working conditions. These devices are not the standard, they vary from situation to situation.

The farm manager or organiser in firm has to motivate his staff towards better utilisation of resources and move the things in right direction towards accomplishment of goals and objectives of the organisation.

### 3.4 Leadership

The function of direction may also be described in broader terms as the task of making the organisation take on life, of creating the conditions that make for interest in the the job, vigour of action, imaginative thinking and continuous team work. This goal is one that cannot be reached by magic formulae. Its achievement rests in large measure, up on the qualities of leadership exhibited by the manager.

Leadership is helping individuals or groups to accomplish organisational goals. It is also, perhaps paradoxically, the process by which the manger attempts to unleash each persons individual potential, once again, as a contribution towards organisational success. Leaders recognise the result of a person's activities counts for more than the activities themselves. Successful managers must have a leadership style and capability that allows them to modify their management patterns to fit the changing times.

The management pattern with respect to leadership has changed over times and are observed according to the dynamic working conditions in the business. The old pattern is presented as yesterday while the current pattern is presented as today below:

**Yesterday**

**Today**

Strong leadership	Group leadership
Arbitrary rewards	Planned rewards
No participation	Meaningful participation
Absolute power	Diluted power
Rigid organisation	Flexible organisation
Thing oriented	People oriented

A good manager today must help subordinates to find satisfaction and to identify themselves with their jobs and with the organisation. At the same time, a sense of balance is required.

Managers must recognise the usefulness of human behavioural principles; but they must also recognise that there are other objectives in running a business besides having happy, satisfied employees.

Successful agribusiness managers know that the output is sum total of the outputs of all those who work for them. Such managers recognise that no one is ever completely satisfied with any organisation, and probably some will never be satisfied at all. What satisfies one person will not satisfy other. But the manager as a director will see that most of the people should be happy most of the time with satisfactions that they derive from their work. The good agribusiness manager will develop those qualities of direction and leadership that will help subordinates to succeed and to derive satisfaction from their work.

#### **4.0 CONCLUSION**

Reading through this unit, you will be able to define directing, functions of directing and meaning of motivation and leadership and their importance in the successful performance of agribusiness enterprise.

#### **5.0 SUMMARY**

In this unit, you have learnt that direction involves motivating, ordering, guiding, leading, executing and supervising the organisation. It is an important management function that makes the people engaged in various positions to move towards the achievement of goals and objectives. Direction involves ordering, motivation and leadership.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Explain the meaning of direction and functions of directing.
2. What are orders and the features of order?
3. State the motivational devices that will make direction effective.

## **7.0 REFERENCE/FURTHER READING**

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*. New Jersey: Hall, Inc. A Simon & Schuster Company, Upper Saale River.



## UNIT 5 CO-ORDINATION, COMMUNICATION AND CONTROL

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Coordination
    - 3.1.1 Roles of Co-ordinator
    - 3.1.2 Principles of Creating Conducive Working Climate
  - 3.2 Communication
  - 3.3 Control
    - 3.3.1 Essential Elements of Control
    - 3.3.2 Purpose of Control in Agribusiness Enterprise
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### 1.0 INTRODUCTION

Co-ordination is unifying and synchronising action of group of people in the firm. Communication is the free flow of information from the manager to the subordinates and vice-versa while controlling is the process of influencing the performance or executing the supervision, so that the results of organisational efforts will reach the expectations. Co-ordination is considered as the **BRAIN** while control is regarded as the **NERVOUS SYSTEM** in the body of management.

### 2.0 OBJECTIVES

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

- explain the co-ordination function of management
- state the principles of creating conducive working climate
- Describe the importance of communication in an organisation
- discuss the role of control in achieving organisational objectives.

### 3.0 MAIN CONTENT

#### 3.1 Meaning of Coordination

Co-ordination is unifying and synchronising action of group of people in the firm. It is considered as the **BRAIN** in the body of management skills. Sound, good and command of management skills will keep the need for coordinating function at a minimum level. The good manager would always strive to co-ordinate operations, departments and individuals under their control and properly work for their integration to achieve the desired results.

In general coordination means working together by:

1. Interpreting the programmes, plans, policies, proceeds and practices.
2. Providing for growth and development of employees.
3. Keeping in touch with the employees.
4. Conditioning the firm for its success.
5. Providing the free flow of information.

##### 3.1.1 Roles of Co-ordinator

- (a) The manager must work hard for welfare of the employees. Efficient workers must be rewarded & promotion policies should be designed. Bonus distribution should be timely and adequate. Accommodation, transport, medical and education allowances, training facilities should be provided.
- (b) The good manger should identify the hidden talents of personnel by stimulating them through varied assignments that offer continuously increasing challenges and opportunities.
- (c) He should have regular schedule of contacts with his staff. He should set himself as a good example to others.
- (d) A good coordinator continuously and carefully seeks the participation of workers. His actions should always be result oriented.
- (e) He should inspire confidence and motivate the staff with his skills.

##### 3.1.2 Principles of Creating Conducive Working Climate

The coordination activities involve creation of conducive working climate without which none of the skills and principles of management can flower and bear fruits. These principles are:

1. The manager must be a role model by setting a good example.
2. Conscientiously seek participation.
3. Be goals- and results- oriented.
4. Give credit (in public) and blame (in private) as needed.
5. Be fair, consistent and honest.
6. Inspire confidence and lend encouragement.

### **3.2 Communication**

The key to the success of any of the management functions is the free flow of communication. The agribusiness manager is responsible for designing and implementing the communications process. Free flow of information means that communications must flow not only downward (from management to subordinates), but upward (from subordinates to managers) and laterally (at the same level) to be effective. Too often managers depend almost exclusively on downward communications and then wonder why policies, procedures, and goals are misunderstood.

Successful communications require feedback. Feedback allows the managers to see whether understanding has indeed occurred. It also allows the good ideas and potential contributions of each employee to be part of the success mix of collective wisdom and knowledge found in the organisation. The manager must provide the opportunity for this feedback and involvement through a carefully designed communication process involving committees, meetings, memos and individual contacts. No matter how well thought out the organisational structure is, there will be times when it breaks down. In such a situation the complex operations do not always work as they are laid out on the paper. People have emotions, misunderstandings and ego needs that sometimes get in the way, especially during seasonal peaks of hectic activity, when they get physically and emotionally tired. Effective management recognises the need for interpreting the formal structure in terms of the human element, by adjusting and working through misunderstandings when they occur. No organisational structure can be successful without a constant concern about honest but tactful communication at all levels.

### **3.3 Control**

Control function is complementary to other management functions and considered as **NERVOUS SYSTEM** of body of knowledge that reports the function of the parts of the body to the whole system. It measures the deviations from the desired course of action and thereby suggests for desired direction.

Controlling is the process of influencing the performance or executing the supervision, so that the results of organisational efforts will reach the expectations.

### 3.3.1 Essential Elements of Control

- (a) A pre-determined criterion / goal / benchmark.
- (b) A means of measuring current activity quantitatively and qualitatively.
- (c) A means of comparing current activity with a prefixed criterion.
- (d) Some means or measures of correcting current activity to achieve desired criterion / goal.

### 3.3.2 Purpose of Control in Agribusiness Enterprise

1. Control does not mean restriction of power over subordinates. Control system sounds a warning when necessary for taking up remedies for problems. Workers in general make mistakes, so the plans finally could not be executed according to schedule. Then there will be great need for having control system to set right the things.
2. Through proper controlling, managers would become aware of weak spots in organisational, directional and co-ordinating efforts and operations of the business.
3. Another important purpose is to evaluate the progress being made towards organisational goals.
4. In the absence of control system employees can not respect the programmes, disregard and in-accuracy are likely to result. The control programmes should be checked periodically and reviewed so that the irrelevant control programmes can be dropped.

## 4.0 CONCLUSION

In this unit, you have learnt about co-ordination and controlling function of management. The meaning and roles of communication in agribusiness management were also discussed.

## 5.0 SUMMARY

In this unit, you have learnt that co-ordination is unifying and synchronising action of group of people in the firm. It is considered as the **BRAIN** while control is considered as the **NERVOUS SYSTEM** in the body of management skills. Sound, good and command of management skills will keep the need for coordinating function at a

minimum level. Free flow of information means that communications must flow not only downward (from management to subordinates), but upward (from subordinates to managers) and laterally (at the same level) to be effective.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Define co-ordination and state the role of the co-ordinator in agribusiness enterprise .
2. Control is regarded as the nervous system of the management skill. Discuss.

## **7.0 REFERENCE/FURTHER READING**

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*. New Jersey: Hall, Inc. A Simon & Schuster Company, Upper Saale River.

## UNIT 6 PRINCIPLES OF MANAGEMENT

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Principles of Management
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### 1.0 INTRODUCTION

Fayol identified fourteen general principles of management. These principles are not rigid but have to be adapted to suit the particular needs of the situation. These principles are applicable in agribusiness enterprise even as it has been applied in manufacturing and service sectors.

### 2.0 OBJECTIVES

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

- state the principles of management
- apply the principles on agribusiness enterprise.

### 3.0 MAIN CONTENT

#### 3.1 Principles of Management

1. **Division of work:** There must be division of labour with specialisation which will allow individuals to build up skills and become more productive. ‘The objective of division of work is to produce more and better work with the same effort.
2. **Authority:** Authority could be both official and personal, which has to be matched with **responsibility**. Generally speaking, responsibility is feared as much as authority is sought after, and fear of responsibility paralyses much initiative and destroys many good qualities. A good leader should possess and infuse into those around him courage to accept responsibility.’
3. **Discipline**—‘in essence, obedience, application, energy, behaviour and outward marks of respect observed in accordance with the standing agreements between the firm and its

- employees... when a defect in discipline is apparent or when relations between superiors and subordinates leave much to be desired... the ill mostly results from the ineptitude of leaders.
4. **Unity of Command**—each man should have only one boss with no conflicting lines of command. ‘In all human associations, in industry, commerce, army, home, State, dual command is a perpetual source of conflicts...’
  5. **Unity of direction**—‘one head and one plan for a group of activities having the same objective. It is the condition essential to unity of action, coordination of strength, and focusing of effort.’
  6. **Subordination of individual interests** to general interests, reconciling conflicting interests where necessary—‘that represents one of the great difficulties of management.’  
Means of affecting it are (1) firmness and good example on the part of the superiors (2) agreements as fair as possible (3) constant supervision.
  7. **Fair Remuneration** for effort—‘every mode of payment likely to make the personnel more valuable and improve its lot in life, and also to inspire keenness on the part of employees at all levels, should be a matter for managers’ constant attention.’
  8. **Centralisation** or decentralisation—the choice to depend on the condition of the business and the culture of its staff. ‘The finding of the measure which shall give the best overall yield; that is the problem of centralisation or decentralisation. Everything which goes to increase the importance of the subordinate’s role is decentralisation; everything which goes to reduce it is centralisation.’
  9. The **scalar chain or hierarchical principle** of management—a path ‘dictated both by the need for some transmission and by the principle of unity of command, but it is not always the swiftest... it is an error to depart needlessly from the line of authority but an even greater one to keep to it when detriment to the business ensues... when an employee is obliged to choose between the two practices, and it is impossible for him to take advice from his superiors, he should be courageous enough and feel free enough to adopt the line dictated by the general interest.’
  10. **Order**, both managerial and social—‘Social order demands a precise knowledge of the human requirements and resources of the concern and a constant balance between these.’ In terms of managerial order—‘a place for everything and everything in its place’, e.g. the organisation chart and statement of areas of responsibility.
  11. **Equity** in the treatment of employees—‘the head of the business should strive to instill a sense of equity throughout all levels of

the scalar chain.’—i.e. kindness and justice by managers help to produce loyalty from staff.

12. **Stability of tenure** among personnel—‘generally the managerial concern of prosperous personnel is stable, that of unsuccessful ones is unstable.  
Instability of tenure is at one and the same time cause and effect of bad running. Nevertheless, changes of personnel are also a question of proportion.’
13. **Initiative**—‘thinking out a plan and ensuring its success is one of the keenest satisfactions for an intelligent man to experience. It is also one of the most powerful stimulants of human endeavour... the initiative of all, added to that of the manager and supplementing it if need be, represents a great source of strength for business... the manager must be able to sacrifice some personal vanity in order to grant this sort of satisfaction to subordinates.’
14. A sense of *Esprit de corps*—essential for management to foster the morale of its workforce. Real talent is needed to coordinate effort, encourage keenness, use each person’s abilities, and reward each one’s merit without arousing possible jealousies and disturbing harmonious relations.

#### 4.0 CONCLUSION

In this unit, you have learnt about the meaning of management, functions of management and the principles of management.

#### 5.0 SUMMARY

There are as many definitions of management as the numbers of management experts. Management is a multi-purpose organ that manages a business, manages manager and manages worker and work. Functions of management include planning, organising, command, coordination and control. According to Fayol, there are fourteen principles of management.

#### 6.0 TUTOR-MARKED ASSIGNMENT

Discuss the following principles of management:

- (a) Division of labour
- (b) Unity of command
- (c) Fair Remuneration
- (d) Equity



## **7.0 REFERENCE/FURTHER READING**

Stephen, P. Robbins & Mary Coulter (1999). *Management Practice*.  
New Jersey:

Hall, Inc. A Simon & Schuster Company, Upper Saale River.

## **UNIT 7 APPLICATION OF MANAGEMENT PRINCIPLES AND FUNCTIONS IN CROP AND ANIMAL PRODUCTION**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Integration and forms of Integration in Agriculture
  - 3.2 Vertical Integration
    - 3.2.1 Benefits of Vertical Integration
    - 3.2.2 Drawbacks of Vertical Integration
    - 3.2.3 Factors Favoring Vertical Integration
    - 3.2.4 Factors against Vertical Integration
  - 3.3 Vertical Integration in Livestock Industry
  - 3.4 Vertical Integration in Crop Production
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- 6.0 Tutor-Marked Assignment
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### **1.0 INTRODUCTION**

The principles of management as outlined by Henri Fayol have their applications in agribusiness enterprises. In all the agribusiness enterprises beginning from the farm operations there is division of labour. Farm operations with respect to crop husbandry involve land preparation, planting, weeding, harvesting and processing. More often than not each of these operations is handled by different individuals. In most cases, men are involved in more rigorous aspect of crop production like land preparation, maintenance of the crops and harvesting while processing of crops like cassava, cocoa, plantain etc is a sole responsibility of women in many parts of Nigeria.

In livestock subsector of agriculture, there is no gender biasedness. Both male and female farmers are into poultry, piggery, fishery and other enterprises in livestock industry.

Control is a function of management, as put down by Henri Fayol. According to Fayolism, there are six primary functions of management - Planning, Organising, Directing, Coordinating, Controlling and Forecasting.

The management functions and principles are tools to facilitate the realisation of the aims and objectives of an organisation, which in most business enterprises including agribusiness is profit maximisation. One form of management control which is gaining ground in agricultural sector is integration.

## 2.0 OBJECTIVES

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

- apply management principles in various agribusinesses
- differentiate forms of integration and their differences
- explain the limitations of vertical integration in agriculture in Nigeria.

## 3.0 MAIN CONTENT

### 3.1 Integration and Forms of Integration in Agriculture

Integration (from the Latin *integer*, meaning whole or entire) generally means combining two or more parts so that they work together or form a whole. Integration is applicable in crop, animal husbandry as well as in agro-allied enterprises. We have the following forms of integration:

1. **Integrated crop management (ICM):** Integrated Crop Management (ICM) is a pragmatic approach to the production of crops. Unlike Integrated Pest Management (IPM) which focuses on crop protection, ICM includes more aspects. This can include such things as IPM, soil, social and environmental management. Over recent decades the focus on crop production has moved from yields to quality and safety, then more recently sustainability. This results in new challenges for farmers and growers each season. ICM is aiming to combine all aspects of crop inputs and management to achieve the needs of the producer and consumer.
2. **Integrated crop-livestock Farming:** Is the integration of crop and livestock production in a farm. Traditionally, this is known as mixed farming. The increasing pressure on land and the growing demand for livestock products makes it more and more important to ensure the effective use of feed resources, including crop residues. An integrated farming system consists of a range of resource-saving practices that aim to achieve acceptable profits

and high and sustained production levels, while minimising the negative effects of intensive farming and preserving the environment.

In an integrated system, livestock and crops are produced within a coordinated framework. The waste products of one component serve as a resource for the other. For example, manure is used to enhance crop production; crop residues and by-products feed the animals, supplementing often inadequate feed supplies, thus contributing to improved animal nutrition and productivity. Animals play key and multiple roles in the functioning of the farm, and not only because they provide livestock products (meat, milk, eggs, wool, hides) or can be converted into prompt cash in times of need.

Animals transform plant energy into useful work: animal power is used for ploughing, transport and in activities such as milling, logging, road construction, marketing, and water lifting for irrigation. Animals also provide manure and other types of animal waste. Excreta has two crucial roles in the overall sustainability of the system:

- (a) *Improving nutrient cycling*: Excreta contain several nutrients (including nitrogen, phosphorus and potassium and organic matter, which are important for maintaining soil structure and fertility. Through its use, production is increased while the risk of soil degradation is reduced.
- (b) *Providing energy*: Excreta is the basis for the production of biogas and energy for household use (e.g. cooking, lighting) or for rural industries (e.g. powering mills and water pumps). Fuel in the form of biogas or dung cakes can replace charcoal and coal.

**3. Integrated Pest Management (IPM)** is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programmes use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

Broadly speaking, there are three basic kinds of integration: Vertical Integration, Horizontal integration and Circular Integration.

Vertical integration is the merging together of two businesses that are at different stages of production—for example, a food manufacturer and a chain of supermarkets.

Horizontal Integration means acquiring activities dealing with similar products, so that synergies accrue and there is a degree of ‘sensible’ diversification. Poultry production and fishery, poultry fishery, snailery or any other combinations of livestock enterprises are examples of horizontal integration in livestock industry. When firms expand both vertically and horizontally, this is called circular integration. Of all these three forms of integration, vertical integration is the most prevalent. In our next section we shall therefore discuss vertical integration in details.

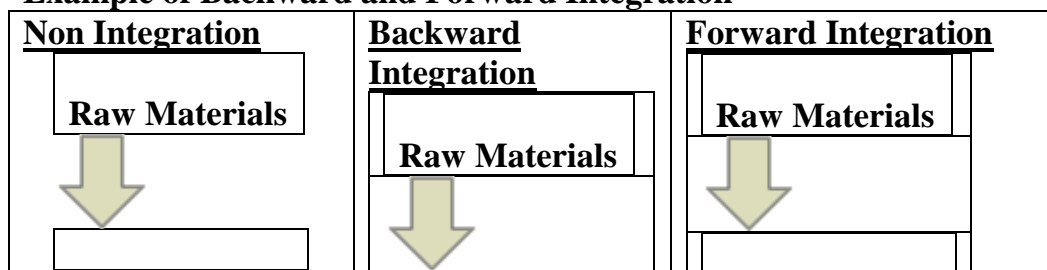
### 3.2 Vertical Integration

Vertical integration is a type of management control. It is one of the alternative methods of coordinating management and control of farm production from farm supplier to ultimate consumer. Vertical integration can be defined as the combination of two or more stages of a production marketing chain under single ownership. There are two forms of vertical integration.

1. **Backward integration:** This occurs when a firm decides to make rather than buy an input from an independent supplier. In other words firm is said to be backward integrated when it has control over the supply of its inputs.
2. **Forward integration:** This occurs when a firm decides to use rather than sell one of its products to independent customers. Conversely, vertical disintegration involves a decision to buy rather than make an input or to sell rather than use an input.

The concept of vertical integration can be visualised using the value chain. Consider a firm whose products are made via an assembly process. Such a firm may consider backward integrating into intermediate manufacturing or forward integrating into distribution, as illustrated below:

#### Example of Backward and Forward Integration



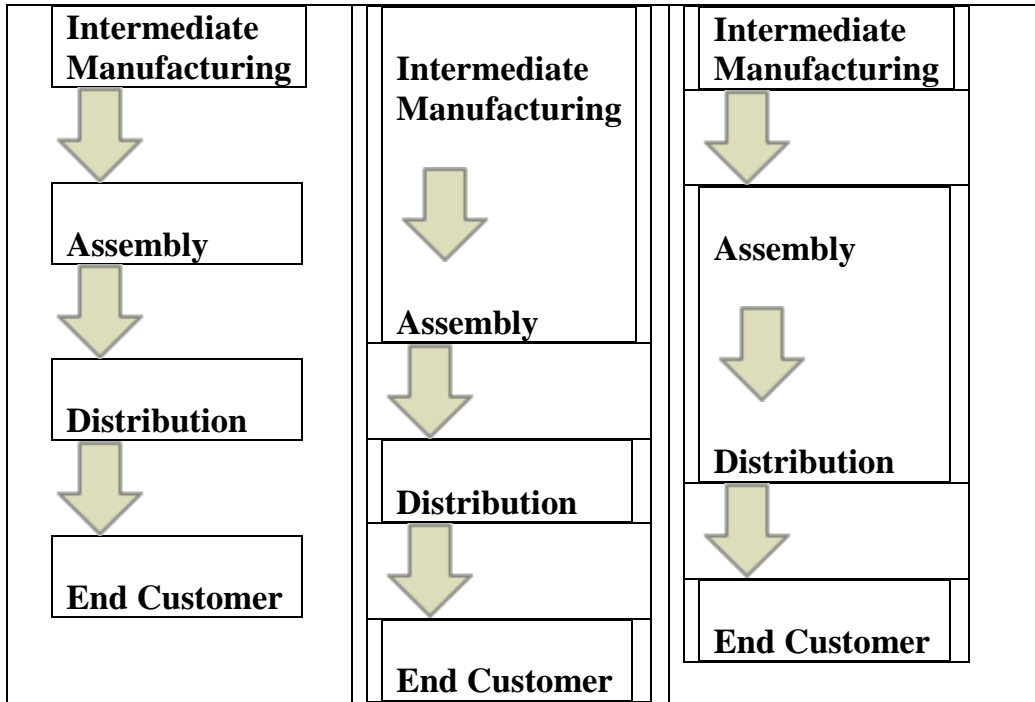


Fig. 1

Figure 1 shows vertical integration using value chain. Let us use poultry farm to explain the chain. No integration in the first column could be likened to a poultry farm that source its inputs from the upstream and sells his products either to wholesalers or retailers while the backward integration could be a case whereby the poultry farms produced its feed by acquiring a feed mill and the forward integration signifies a poultry farm that acquire its inputs from the upstream but combines distribution with production.

### 3.2.1 Benefits of Vertical Integration

Vertical integration potentially offers the following advantages:

1. Vertical integration reduces transportation costs if common ownership results in closer geographic proximity.
2. It Improves supply chain coordination.
3. Firms may integrate as a risk reduction strategy.
4. Vertical integration is a management control that increases the profitability of business enterprises.
5. It provides more opportunities to differentiate by means of increased control over inputs.
6. Entrepreneur and the farmers can guarantee the quality of inputs.
7. It ensures adequate and timely supply of inputs.
8. It increases entry barriers due to accessibility of vertically integrated firm to a scarce resource (s).
9. Vertical integration leads to expansion of core competencies.

10. It facilitates investment in highly specialised assets in which upstream and down stream players may be reluctant to invest.
11. It facilitates information exchange, for vertical integration increases likelihood and duration of exchange between stages. Moreover, vertical integration may cause the firm to require less information, thereby reducing costs, for example, for collecting and processing information about the market.

### **3.2.2 Drawbacks of Vertical Integration**

While some of the benefits of vertical integration can be quite attractive to the firm, the drawbacks may negate any potential gains. Vertical integration potentially has the following disadvantages:

1. Vertical integration requires high level of capital investment. For instance a poultry farm that integrates backward is expected to acquire feed mill and produce the maize to feed the mill.
2. The profitability advantage of vertical integration is often limited by scale and scope incompatibility and underutilisation of machineries. This problem will occur for instance in a vertically integrated poultry farm if the capacity of feed mill is greater than the feed requirements of the poultry farms. This is a capacity balancing issue and is also known as unbalanced throughput.
3. Potentially higher costs due to low efficiencies resulting from lack of supplier competition.
4. Vertical integration reduces flexibility due to previous upstream or downstream investments.
5. Decreased ability to increase product variety if significant in-house development is required.
6. It increases bureaucracy and its attendant costs.
7. It may lead to loss of specialisation.

### **3.2.3 Factors Favouring Vertical Integration**

The following situational factors tend to favour vertical integration:

1. Strategic similarities between the vertically-related activities.
2. Taxes and regulations on market transactions.
3. Obstacles to the formulation and monitoring of contracts.
4. The production must be sufficiently large so that the firm can benefit from economies of scale.
5. Reluctance of other firms to make investments specific to the transaction.

### 3.2.4 Factors against Vertical Integration

The following situational factors tend to make vertical integration less attractive:

1. The quantity required from a supplier is much less than the minimum efficient scale for producing the product.
2. Wide availability of a commodity and significant reduction in production cost as cumulative quantity increases is a major limitation to vertical integration.
3. Differences in the core competencies required to manage the integrated activities.
4. If the vertically adjacent activities are in very different types of industries. For example, manufacturing is very different from retailing.
5. The addition of the new activity places the firm in competition with another player with which it needs to cooperate. The firm then may be viewed as a competitor rather than a partner.

### 3.3 Vertical Integration in Livestock Industry

In practice, vertical integration in agriculture often involves ownership of both farm production and processing activities, particularly in certain parts of the livestock sector. In developed countries, almost all livestock farms-cattle, piggery, poultry. Farmers who raise corn and hay as feed for their dairy operations are vertically integrated across both crop and livestock production. Similarly, cattle producers who combine raising a cow-calf herd, back grounding the animals to medium weights, and feeding cattle to slaughter weights are vertically integrated whereas in developing countries vertical integration is more prevalent in poultry industry. We shall therefore focus on vertical integration in the poultry industry.

Poultry farms with large operations, the enterprise mix may include a feed mill, a hatchery, a grow-out operation, a slaughter facility, and a packing plant. In such cases, integration moves both backward into inputs (feed manufacturing) and forward into the finished, consumer-ready product. Similarly, egg producers with large operations may own their own feed mill, hatchery, laying operation, and freezing/drying plant for the processing of egg products. According to Bamiro (2012), in the poultry industry, there are three levels of integration. These are:

1. Non-integrated – Poultry firms tend to act as individual business units. Poultry industry in Nigeria and developing countries is dominated by Non-integrated poultry farms. Integrated poultry farms are commercial feed users.



2. Partially integrated poultry farms –These are poultry farms that use privately produced feeds but mill their feed at commercial feed milling centres.
3. Fully Integrated poultry farms – These are large poultry farms that use privately compounded feeds that are milled in their own feed mill. A relatively few poultry farms in this category have hatchery, slaughter facility and freezing or drying points.

This classification which is based on feed production is an indicator of the level of vertical integration in the poultry industry, which is the mostly integrated livestock subsector in Nigeria. The current extent of integration in the poultry industry limits the financial gain that accrues to poultry farmers due to vertical integration. A fully integrated poultry farms in developed countries have feed mill, slaughter facility, hatchery and processing and sometimes own maize farms that supplies maize, the critical inputs in feed production vis-a-vis poultry production.

### **3.4 Vertical Integration in Crop Production**

In developed countries, vertical integration is also common in certain specialty crops particularly for fresh vegetable and potato operations. In these industries, vertical integration often encompasses not only production of the crop, but also sorting, assembling, and packaging products for retail sales. Large, vertically integrated vegetable growers, for example, often both pack and sell their own vegetables, displaying their private brand names on packages, and at times investing in research targeted at developing new varieties.

In developing countries on the other hand, crop husbandry are not vertically integrated except in the areas of mixed farming and mixed cropping.

The reasons for non-integration in crop husbandry and limited vertical integration in livestock industry in Nigeria are:

1. Lack of processing facilities to transform agricultural products from primary products to processed commodity.
2. Poor development of agricultural sector that can necessitate vertical coordination with or without contract.
3. Illiteracy- Majority of farmers in Nigeria are illiterates, hence they have no access to information on the issue of vertical integration.
4. Poor agricultural finance- Vertical integration is capital intensive, but the farmers have no access to adequate funds from financial institutions especially banks that always turn down the loan

request of farmers under the pretext of vulnerability of farm enterprises to high risks and uncertainties.

5. The subsistence level of agricultural production in Nigeria is a major limitation because vertical integration requires large production which will enable farmers to benefit from economies of scale and scope.

#### **4.0 CONCLUSION**

You have learnt the application of management principles in agribusiness enterprises. Integration, which is the most important principle, contributes positively to profitability and risk reduction.

#### **5.0 SUMMARY**

Application of management principle is the focus of this study unit. Integration is one major management principle that has been adopted in both crop and livestock production and in agro-allied firms. The integration is of three types, vertical integration, horizontal integration and cyclical integration. The most prominent one is the vertical integration. You have also learnt that integration is more widely adopted in livestock industry than in crop husbandry. In livestock industry, it is highly pronounced in poultry industry.

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

1. Define integration and mention types of integration.
2. State the merits and demerits of vertical integration.
3. What are the limitations of application of integration in agribusiness in Nigeria?

#### **7.0 REFERENCES/FURTHER READING**

Bamiro, O. M. (2012). "Economics of Vertical Integration in the Poultry Industry in Ogun and Oyo States of Nigeria".

Consumer Union (2000). Animal Factories: Pollution and Health Threats to Rural Areas

<http://www.consumersunion.org>.

McFetridge, D. G. (1994). "Economics of Vertical Integration" *Canadian Journal of Agricultural Economics*, 42: 25-53.

Rhodes, V. J. (1993) "Industrialisation of agriculture:" discussion.  
*American Journal of Agricultural Economics*, 75(5): 1137-40.

## **MODULE 3      ANALYSIS OF FARM FINANCIAL STATEMENT**

Unit 1	Meaning and Importance of farm records and accounts
Unit 2	Farm Assets and Valuations
Unit 3	Meaning and Importance of Depreciation

### **UNIT 1      MEANING AND IMPORTANCE OF FARM RECORDS AND ACCOUNTS**

#### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
	3.1 Importance of farm Records and Accounts
	3.2 Types of Farm Records and Accounts
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

#### **1.0 INTRODUCTION**

Record keeping is an essential tool to any business or activity. In the present day farm operations are becoming more and more business oriented, but remember being a good producer is no longer enough to remain in business. The key to becoming a successful farmer today is being a producer as well as good financial manager. It is also an essential for a farm manager to keep good, accurate records and establish a sound record keeping system. Record keeping plays an important and major role in any business regardless of the size, nature or type of business, thus a good entrepreneur must be a good record keeper but unfortunately majority of LDCs especially those in farming business do not keep records at all.

#### **2.0 OBJECTIVES**

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

- explain the meaning of farm records
- state the purpose of record keeping in agribusiness
- List types and records in agribusiness.

### **3.0 MAIN CONTENT**

#### **3.1 Importance of Farm Records and Accounts**

There are several important reasons why a farmer or agribusiness owners should keep accurate and complete farm records. These include:

1. For management purposes.
2. For credit purposes.
3. For taxation and insurance purpose.
4. For evaluation of economic performance of a farm and farm enterprise.
5. Improvement of managerial ability.
6. Basis for Research in Agricultural Economics.
7. Bedrock for agricultural policy formation.

##### **1. Management Purpose**

Farm management includes three activities: planning, implementation, and control. Efficiency in farm planning will be a mirage except there are adequate and accurate data. It would also be impossible to evaluate farm projects to ascertain its success and its conformity with the goals or objectives set for the farm unless a good set of records are kept. Management of the farm is the first reason to keep a good set of records.

##### **2. For Credit purposes**

Another reason for farm records and accounts is for credit purposes. Lenders especially bankers require information regarding the farmers equity, expected profitability, cash flow as well as the overall farm plans before they will consider, let alone approve, a loan request. This is good and of immense benefit to both the financial institution and the farmers because it is a pointer to judicious utilisation of the credit facility if eventually granted. It also helps the credit analyst of the bank to know the current state of the farm and to monitor the progress of the farm enterprise.

##### **3. Taxation and Insurance Purposes**

In developed countries farmers pay taxes on their crops and other farm produce and farm records and accounts is the basis in determining the income tax liability of each farmer. Presently farmers in developing countries are not paying taxes on their farm products but there is likelihood of this in the nearest future, hence, farmers in each developing country must keep accurate data which can assist the

government to accurately determine each farmer's tax liability. In the same vein, a good farm record is a principal requirement for crop or animal insurance.

#### 4. Evaluation of Economic Performance

The farmer or entrepreneurs always have set objectives against which evaluation will be made to ascertain accomplishment or the extent to which the objective have been realised. The requirement for evaluation of economic performance is adequate and accurate farm records that contain inventory, inputs, output, revenue, profit etc. The best way to obtain information on present results is to keep records and accounts in order to:

1. Know financial status at a point of time.
  2. Know gains and losses over time.
  3. Know better source of income and items of costs.
  4. Keep a check on unproductive expenditure.
  5. Examine comparative profitability & costs involved or different enterprises.
  6. Weak points of farm organisation.
  7. Develop rational short term and long-term production plans.
5. **Way to improve managerial ability of the farmer:** It helps to acquire business habits which can help in taking advantage of changes in the economic environment. The farmer gets a better insight into the working of his business, which helps in finding out the defects which can be set right by exercising better control and effecting economies. Farmer can avoid mistakes and losses which would otherwise result to dependence only on his memory for guidance.
6. **Basis for Research in Agricultural Economics:** Research at all levels requires precise and correct data which is possible only if proper records and accounts are maintained on the farms. The absence of accurate data both at primary and secondary levels is the bane of productive and economy-driven research products included in the study.
7. **Bedrock for Agricultural Policies:** The primary data from small, medium and large scale farmers serves as bedrock for the formation of sound and implementable agricultural policies. These each primary data will only be accurate and useful if each farmer keeps records of all the activities in each season and willingly make them available to researchers and government

agencies that will need them for research and formation of policies that will impact on agricultural production. Unavailability of this information often compelled government agencies to resort to speculations and guesses. Policies formed on such speculations are frivolous, and non-implementable.

### 3.2 Types of Farm Records and Accounts

There are several types of farm records and accounts but they can be classified into three or four categories. Below is the list of various farm records.

- (i) Income and expense--Record showing the cash transactions that take place during the year.
- (ii) Cash-flow--Record showing sources of income and showing the time of year income is received and expenses occur.
- (iii) Inventory--Record of all physical assets at a particular point in time.
- (iv) Depreciation--Record showing the decrease in value of assets.
- (v) Enterprise account--Record kept on a particular activity of the agribusiness.
- (vi) Accounts receivable and payable--Record of money due from others and owed to others.
- (vii) Production--Record of that which is grown or created by the business. Examples are trays of eggs, litres of milk, tones of maize etc.
- (Viii) Labour--Record of amount and cost of man-hours used in different enterprises within the agribusiness

#### 1. Inventory

An inventory is a record showing all physical assets at a particular time. Inventory is a “picture” of all assets at a particular time. It is usually taken at December 31 of each year. There are principles in taking inventory. The first principle involves the listing of the assets in physical terms, that is, number, weight or litre depending on the type of asset being listed. For instance, inventory of machinery, cutlass and refrigerator, goats, sheep broilers etc. will be in number, that is, the quantity of the assets in the farm while the quantity of palm oil, vegetable oil or any other liquid will be listed in litre. The second principle in taking farm inventory is assignment of values to all assets using appropriate asset valuation methods. Finally, the assets should be grouped; crops, animals, machinery and products and machinery that are

meant for sale should be grouped accordingly. Inventory records are important for the following reasons:

- (a) It helps to determine the net worth of a farm at a point in time.
- (b) Inventory is useful for cash flow plan by indicating assets that the farms need to acquire and assets that will be available for sale.
- (c) Inventory includes records of stock, output of farm products in physical terms, hence, it shows the level of production during a season or year.
- (d) Documented farm inventory serves as collateral for credit purposes.

## **2. Production Records**

Production records are physical records of quantities of resources used in the farm and the output realised from the use of the inputs or resources. Production records include livestock records such as quantities of cow, bull, lamb, boar, sow, piglet, broilers layers; quantities of feed fed to each type of livestock, weight gain, trays of eggs collected per day, litres of milk from dairy farm etc. With respect to crop husbandry, the records contain information on hectares of land planted to various crops, types and quantities of fertilizer applied; types and quantities of herbicides and pesticide and output from each enterprise. Another component of production record is labour record which shows man days of labour utilised for each enterprise.

## **3. Income and Expense Record**

Income and expense record also known as Income and Expenditure Record; is a record that shows the cash transactions that take place during the year. They comprise of income realised from sales of farm produce and expenditure on inputs such as wages, costs of chemical inputs etc. Income and Expense record in essence is a record of values of items in the production records.

## **4. Accounts Receivable and Payable**

Account receivable and payable is the record of claims that the farm-firm has against individuals or another organisation and the claims that individual or organisation has against the farm firm. It shows the amount and the due date for payment of both account receivables and payable. This record helps the manager to manage his debts and his debtors. It also helps to ascertain the assets and liability of the farm at a particular



time since account receivable (which is not yet a bad debt) is an assets while account payable is a liability

## 5. Enterprise Account

The enterprise account is a record that shows transactions with respect to each enterprise in the farm. For instance in a livestock farm that has poultry, piggery, fishery and apiary enterprises. Each of them is an enterprise and the records of values of inputs and output with respect to each enterprise should be documented. The enterprise account will enable the manager to know the contributions of each enterprise to the business economy vis-à-vis the enterprise that requires more investment.

## 4.0 CONCLUSION

Record keeping is a major key to the growth and development of a business enterprise. Farmers and other stakeholders are therefore expected to keep records for several reasons.

## 5.0 SUMMARY

In this study unit, you have learnt the meaning of farm records and the importance of record keeping in agribusiness. Types of farm records identified are production records, inventory records, account payable and receivable records, income and expense record and enterprise account.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. State different types of farm records and the need for each.
2. What are the importance of keeping farm records.

## 7.0 REFERENCES/FURTHER READING

Olukosi, J.O. & Erhabor, P.O. (1988). Introduction to Farm Management Economics: Principles and Applications. Zaria: AGITAB Publishers Ltd. Adesimi, A.A (1988): Farm Management Analysis with Perspective through the development process.

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155

Johl, S.S. & Kapur, J.R.( ,2006). *Fundamentals of Farm Business Management*. New Delhi: Kalyani Publishers.

## **UNIT 2 ASSETS VALUATION**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning and Importance of Valuation
    - 3.1.1 Definition of Assets
  - 3.2 Meaning of Valuation of Assets
  - 3.3 Methods of Valuation of Assets
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

The assets of the farms must be ascertained at least once in a year at the end of accounting period for a particular farm. Depreciation of the asset is also a necessity for farm account so that the balance sheet can reflect the true picture of the assets values and to avoid the overestimation of the net farm income or farm profit.

### **2.0 OBJECTIVES**

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

- define the assets valuation
- explain the methods of assets valuation.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning and Importance of Valuation**

##### **3.1.1 Definition of assets**

Assets are items that have monetary value and owned by the agribusiness enterprise. Assets are classified as current, intermediate

and fixed assets. Current assets are assets that have a useful life of one year. Intermediate assets have useful life that ranges between two to five years while fixed assets have lifespan of six years and above.

### **3.2 Meaning of Valuation of Assets**

Valuation of assets means attaching prices to assets such as buildings, tractors, vehicles, crops on the farm, animals etc. Valuation methods employed will affect both profit and loss account and the balance sheet. It is therefore important to employ the same method of valuation of all the farm assets.

### **3.3 Methods of Valuation of Assets**

There is no single one method is best for every situation. Many items can therefore be valued in different ways:

#### **(a) Valuation at Market Cost**

This method involves the use of price at which an item was purchased on the market. This method is used for items purchased recently and scheduled for use in a short time. This can be used for assets such as feed, fuel, fertilizer, and seed.

#### **(b) Valuation at Net Market Price**

Valuation of asset is based on selling price less transportation and marketing costs. It is used for items held primarily for sale or for which a market price is well established. Market livestock, harvested crops, machinery, breeding livestock are few examples of assets valued at net market price.

#### **(c) Valuation at Cost or Market Value**

Assets are valued using the cost of producing an item, or its original purchase price. The purchased price will be compared with the current market price, and the lower of the two amounts is chosen. It is used for items primarily held for sale or for supplies to be used. It is generally more conservative than the net market price. Inputs such as seed, fertilizer, and fuel can be valued at cost or market value.

#### **(d) Valuation at Farm Production Cost:** This method involves the use of cost of producing an asset on the farm to value the assets.

It is used for assets that have been produced and will be used in future production. Examples of assets that can be valued in this manner are breeding stock, standing crops.

- (e) **Valuation at Cost Less Depreciation:** This method is employed for the valuation of assets with a limited lifespan over one year. It is used for machinery, breeding stock, fences.
- (f) **Valuation at Cost Less Depletion:** This method is used to value an asset less the amount that has been used up or depleted. It is used for natural resources that are gradually used up or depleted. Timber stand, mineral deposits and oil wells are examples of assets that can be valued with this method.

#### 4.0 CONCLUSION

In this unit you have learnt the meaning of assets, valuation and the different methods of valuation of assets. Understanding this concept will enable you to know which method of evaluation is applicable to a particular asset.

#### 5.0 SUMMARY

Valuation of assets is the attachment of cost to assets. Methods of assets valuation are valuation at market cost, at market value, at farm production cost and at cost less depreciation or depletion.

#### 6.0 TUTOR-MARKED ASSIGNMENT

1. Define assets and valuation of asset.
2. Mention and discuss methods of valuation of assets.
3. Name the methods of valuation you will use for the following assets: (a) tractor (b) breeding stock (c) fertilizer (d) seed.

#### 7.0 REFERENCES/FURTHER READING

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## **UNIT 3 MEANING AND IMPORTANCE OF DEPRECIATION**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Depreciation
  - 3.2 Purposes for Calculating Depreciation
  - 3.3 Methods of Depreciation
    - 3.3.1 The Straight Line Method
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- 4.0 Conclusion
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### **1.0 INTRODUCTION**

Fixed or long term assets are not consumed in a production process rather they are consumed gradually over a period of time known as their estimated life time or lifespan. Provision for depreciation is necessary due to loss in the value of an asset which occurs as a result of wear and tear and obsolescence. Managers must make provision for depreciation so that the assets can be replaced after the expiration of the lifespan of the assets.

### **2.0 OBJECTIVES**

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

- write the meaning of and importance of depreciation
- explain methods of depreciation
- calculate depreciation using different methods of depreciation.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Depreciation**

Fixed assets are not consumed in one production process or cycle; therefore, to reflect the cost of fixed asset like machinery, cutlass in profit and loss account of the year of purchase is incorrect and it will

underestimate the profitability of the enterprise. A farmer or agribusiness experts should understand that as you use the asset each year, a proportion of its value is being consumed, the portion of it consumed in each year is known as annual depreciable value or depreciation. Depreciation is regarded as annual cost; hence it is a variable cost. Depreciation enables you to spread the cost of an asset over its useful life. Depreciation is defined as loss in the value of an asset due to wear and tear and obsolescence.

The annual depreciable value of each asset such as freezer, planter, milling machine should be accounted for and saved annually as a sunken cost so that the assets can be replaced at expiration of its lifespan. This is necessary because of the wear and tear of the assets and sometimes some assets become obsolete, that is out of date, their replacement becomes impossible if there is no provision for depreciation.

### **3.2 Purposes for Calculating Depreciation**

- (i) Depreciation helps to adjust taxable income, which is required for tax purposes. If there is no provision for depreciation Managers might be tempted to deduct the entire purchase price of a fixed asset in the year it is purchased, which is legally wrong.
- (ii) It provides a method to assign non-cash expenses to the various enterprises
- (iii) Depreciation provides an estimate of current value of an asset.

### **3.3 Methods of Depreciation**

The rate at which assets depreciates differ. Some depreciate faster than the other. The difference in the depreciation rates of assets depends on certain factors such as intensity of use, environmental factors such as good roads for vehicles, level of maintenance etc. For instance a vehicle devoted to business and makes journeys from Lagos to Abuja every week will depreciate faster than another vehicle owned by the same firm but being used within Lagos metropolis. In this example, the rate of use is the factor that makes the former to depreciate faster than the latter. Good roads and excellent maintenance culture are the two major factors that contribute to good conditions due to low rate of depreciation of used vehicles (popularly known as ‘tokunbo’) that are imported from developed nations. Due to differences in the rate of depreciation of assets, methods of calculating depreciation that will be employed must be such that makes provision for the rate of assets depreciation.

Basically there are three methods of depreciation:

- (1) The Straight Line Method
- (2) The sum of the Year Digit Method
- (3) The declining balance method

### 3.3.1 The Straight Line Method

The straight line method as the name implies is straight and simple. The simplicity and ease of calculation has made both researchers and firms to always employ this method of depreciation. The annual depreciable value (ADV) of an asset using this method is given as:

$$ADV = \frac{\text{COST PRICE} - \text{SALVAGE/SCRAP VALUE}}{\text{ESTMATED USEFUL LIFE}}$$

Cost Price = Amount for which the asset was purchased i.e. Purchase price  
Salvage /Scrap Value = the worth of an asset at the end of its useful life or lifespan. The scrap value of an asset may be zero if such asset can no longer be disposed at any price.

Estimated Useful Life =this is the lifespan or life expectancy of an assets which should be one year and above.

If a tractor was bought for ₦2, 850, 560 and can be sold off in its 20th year for ₦800, 000, what is the annual depreciable value?

$$ADV = \frac{2,850,560 - 800,000}{20} = \text{₦}102,528$$

The annual depreciation or depreciable value for the tractor is ₦102, 528. This implies that the farm-firm should set aside ₦102, 528 every year for twenty years.

### 3.3.2 The Double declining Balance Method

This method makes use of the rate of depreciation throughout the estimated life of an asset. This method includes an "accelerator," so the asset depreciates more in the beginning of its useful life. This depreciation method is used for cars and other assets that depreciate more in the early part of their life expectancy. The procedure for calculating depreciation using declining balance method is stated below:

1. Determine the rate of depreciation of the asset.

- The asset life is used to determine the rate at which the depreciation will accrue.
  - Assuming a purchase price of ₦1,000, a salvage value of ₦200 and an asset life of 5 years, calculate the annual depreciation.
  - Using the example above, with the useful life of 5 years.
2. Divide 100 percent by the number of years in the asset life and then multiply by 2 to find the depreciation rate.
    - In our example,  $100\% / 5 = 20$  percent;  $20 \text{ percent} \times 2 = 40$  percent.
  3. Take the asset's purchase price as the depreciable basis value.
  4. Multiply the current depreciable basis by the depreciation rate to find the year's depreciation.  
In the first year of use, the depreciation will be ₦400 (₦1,000 x 40 percent).
    - For the second year, the depreciable value is now ₦600 (₦1,000 - 400) and the annual depreciation will be ₦240 (₦600 x 40 percent).
    - For the third year, the depreciable basis becomes ₦360 with a depreciation of ₦144.
  5. Cease accumulating depreciation in any year in which the depreciable basis will fall below the salvage value.
    - Using this example, in year 4 the depreciable basis is ₦216. The salvage value is ₦200.
    - In year 4, calculate depreciation of ₦16 to reduce the depreciable value to ₦200.
    - In year 5, there is no need to calculate depreciation.

### **Double Declining Balance Depreciation Method Formula**

Depreciation Base \* (2 \* 100% / Useful Life of Asset in Years)

### **Summary of the Depreciation using Double declining balance**

<b>Value (₦)</b>	<b>Annual Depreciation (₦)</b>	
<b>Year 1</b>	<b>1000</b>	400
Year 2	(1000-400)	240
Year 3	(600-240)	144
Year 4	(360-144)	6.40
Year 5	(216-16)	



(In year 4, the depreciable value is ₦216 while the salvage value is ₦200, hence the depreciable value is (₦216 - ₦200) and the depreciation is ₦6.40 (40% of ₦16).

Check:  $400 + 240 + 144 + 6.40 + 200$

Example: Tony poultry farms purchased a 3 tier cage for 500,000.00 and the rate of depreciation is 10 percent and the life expectancy of the cage is 10 years. Calculate the annual depreciable value.

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

This method of calculating depreciation favours both the assets which depreciate faster in the later years of their life expectancy or estimated useful life. In this method, the number of years in the useful life is summed. The formula for the sum of the years' digit method is given as:

$$\text{Annual Depreciation Value} = (\text{Cost} - \text{Salvage Value}) \times \frac{\text{RL}}{\text{SOYD}}$$

RL = Remaining years of useful life

SOYD = Sum of the number from 1 through the estimated useful life.

For example, if an asset had a useful life of 6 years, the digits would be added:  $6+5+4+3+2+1=21$ . Then annual depreciation would be determined as follows for assets that depreciate faster in the beginning of their useful life

- Year 1 =  $6/21 = 28.6\%$  times the cost (or cost less salvage)
- Year 2 =  $5/21 = 23.8\%$
- Year 3 =  $4/21 = 19\%$
- Year 4 =  $3/21 = 14.3\%$
- Year 5 =  $2/21 = 9.5\%$
- Year 6 =  $1/21 = 4.8\%$

If on the other hand the rate of depreciation is higher in the latter years of the assets, the depreciation is obtained thus:

- Year 1 =  $1/21 = 4.8\%$  times the cost (or cost less salvage)
- Year 2 =  $2/21 = 9.5\%$
- Year 3 =  $3/21 = 14.3\%$
- Year 4 =  $4/21 = 19\%$
- Year 5 =  $5/21 = 23.8\%$
- Year 6 =  $6/21 = 28.6\%$

Question: Calculate depreciation for a machine with a cost of ₦10, 000, a salvage value of ₦2, 000, and a useful life of 10 years.

### Solution

Sum of the years' digit:  $1+2+3+4+5+6+7+8+9+10=55$

$$\text{Year 1} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{10}{55} = \text{₦}1,454.55$$

$$\text{Year 2} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{9}{55} = 1,309.09$$

$$\text{Year 3} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{8}{55} = 1,163.64$$

$$\text{Year 4} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{7}{55} = 1,018.18$$

$$\text{Year 5} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{6}{55} = 872.73$$

$$\text{Year 6} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{5}{55} = 727.27$$

$$\text{Year 7} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{4}{55} = 581.82$$

$$\text{Year 8} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{3}{55} = 436.36$$

$$\text{Year 9} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{2}{55} = 290.91$$

$$\text{Year 10} \quad (\text{₦}10,000 - \text{₦}2,000) \times \frac{1}{55} = 145.45$$

### 3.3.4 Partial Year Depreciation

If an asset is purchased during the year, rather than at the beginning of the year, depreciation must be prorated. A cage purchased in May 1 would be eligible for 8/12 of a full year's depreciation in the first year.

#### Depreciation Schedule

It is expedient for farm manager to prepare depreciation schedule because it will help him and other stakeholders to see at a glance when the asset was purchased, the method of depreciation employed and the annual depreciable value. Design of depreciation schedule is shown below:

### Depreciation Schedule

	Date	Cost	Salvage Value	Useful Life	Depreciation	20____		20____	
		or Basis			method	Depre- ciation	Book value	Depre- ciation	Book value
Item	Purchased	Basis	Value	Life					

#### 4.0 CONCLUSION

This unit has exposed you to the meaning, importance and methods of depreciation. You have also learnt how to calculate depreciation using each method and the applicability of each method.

#### 5.0 SUMMARY

Depreciation is the loss in the value of an asset due to wear and tear and obsolescence. There are three methods of depreciation namely, the straight line method, double declining balance and sum of the years’ digit method. The rate of depreciation of assets is the basis for the choice of method of depreciation.

#### 6.0 TUTOR-MARKED ASSIGNMENT

1. What is depreciation?
2. The cost price of a de-feathering machine that has a lifespan of 15years is ₦500, 000.00 and the salvage value is ₦50, 000. Calculate the annual depreciation value of the machine using straight line method and double declining balance method.
3. Suppose the asset was purchased in April, what will be the first year depreciation using straight line method?

## 7.0 REFERENCES/FURTHER READING

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*.  
Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## **MODULE 4      FARM ACCOUNTS**

Unit 1	Profit and Loss Statement
Unit 2	Balance Sheet and Balance Sheet Analysis
Unit 3	Farm Business Analysis
Unit 4	Farm Ratios I
Unit 5	Farm Ratios II
Unit 6	Cash Flow Analysis

### **UNIT 1      PROFIT AND LOSS STATEMENT**

#### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Meaning and importance of Income Statement or Profit and Loss Statement
3.1.1	Analysis of Farm Income Statement or Profit and Loss Statement
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

#### **1.0      INTRODUCTION**

The valuation and depreciation we have considered are means to an end. These two are essential for the assessment of the profitability of the business enterprise. The farm accounts that reveals the profitability of a business enterprise is profit and loss statement.

#### **2.0      OBJECTIVES**

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

- evaluate profit and loss statement
- define or explain the meaning of cash and non-cash income, cash and non-cash.

### 3.0 MAIN CONTENT

#### 3.1 Meaning and Importance of Income Statement or Profit and Loss Statement

Farm income refers to profits and losses incurred through the operation of a farm. A farm income statement (sometimes called a farm profit and loss statement) is a summary of income and expenditure that occurred during a specified accounting period. This period is usually the calendar year for farmers usually January to December. The content of the income statement or farm profit and loss statement indicates the enterprise that has high expenditure and enterprise with high accrued revenue. This and other information reveals the components of the farm business that require more attention in terms of investment and the areas that production must be reduced. A hypothetical farm income statement is presented in Table 1.

**Table 1: Farm Income Statement for the period of January to December, 2011**

<i>Income</i>	<i>₦</i>	<i>Expenses</i>	<i>₦</i>
Livestock and products		Livestock purchases	1,627
Milk	103,855	Feed	28,173
Dairy Stock	10,300	Other Livestock Expense	8,124
Crops	1,689	Crops	
Custom work	405	Seed	2,963
Rents		Fertilizers	6,524
Government payments	769	Chemicals	
Misc Farm income	1,863	Other	
Total farm cash sales	118,881	Marketing costs	
Closing current accounts receivables (\$620)		Custom work, equipment rentals	1,252
Less: opening current accounts receivables ₦500	120	Hired labor	7,106
Total farm sales	119,001	Fuel, oil	4,431
Plus inventory change (ending minus beginning)		Equipment repairs	4,607
Livestock (₦110,815 - ₦110,000)	815	Building, fence repairs	1,334
Crops (₦46,857 -	6,857	Interest	9,662

₦40,000)			
Supplies (₦700 - ₦1,000)	(300)	Electricity	3,375
<b>Gross farm income (A)</b>	<b>126,373</b>	Taxes, insurance	3,618
		Car expenses	1,071
		Rent	2,238
		Other farm cash expenses	2,857
		Total farm cash expenses	88,962
		Closing current accounts payable (\$884)	
		Less: opening current accounts payable (\$500)	384
		Total farm purchases	89,346
		Plus depreciation	17,532
		<b>Total farm expenses (B)</b>	<b>106,878</b>
		<b>Net farm income (A-B)</b>	<b>19,495</b>

### 3.1.1 Analysis of Farm Income Statement or Profit and Loss Statement

The Farm Income Statement is a summary of income, expenses, and resultant profit or loss from farming operations during the calendar year. Table 1 shows the Farm income statement of a farm firm. The income is shown on the left hand side while the expenditure is on the left hand side.

There are two types of farm income and farm expenses-cash income and cash expenses and non-cash income and non-cash expenses.

**Cash income** refers to cash receipts from sales of produce (crops, animals and by-products).

**Non-cash income** refers to income not received or imputed income. Examples are unsold harvested crops and unsold animals (or value of closing stock), supplies, values of crops and animal consumed at home as well as gifts etc.

**Cash expenses:** These are expenditures made by the farmers that involve payment in cash or cheque.

**Non-cash expenses** are expenditures that do not involve direct cash. Examples are net depreciation of equipment, unpaid wages of family labour, decrease in inventory etc.

The first section of the on the right hand side of the income statement lists cash farm income from all sources while the lower part lists the non cash income. In the same vein, the upper part of the expenditure section contains cash expenses and the lower part contains non-cash expenses, which include

The difference between *Gross Cash Farm Income* and *Total Cash Expense* is the *Net Cash Farm Income*. This is the net farm income on a *cash* basis.

The difference between total income (sum total of cash income and non-cash income) and total expenditures (sum total cash expense and non-cash expense) is known as Net Farm Income. The resulting “Net Farm Income” represents the return to the operators and family’s unpaid labour, management, and equity capital (net worth). In other words, it represents the return to all the resources which are owned by the farm family and, hence, not purchased or paid a wage. However, it does not include any asset appreciation, debt forgiveness or asset repossessions.

### **Other Definitions**

**Gross Cash Income:** the sum of all receipts from the sale of crops, livestock and farm related goods and services, as well as any direct payments from the government.

**Gross Farm Income:** the same as gross cash income with the addition of non-money income, such as the value of home consumption of self-produced food.

**Net Cash Income:** the gross cash income less all cash expenses, such as for feed, seed, fertilizer, property taxes, interest on debt, wagers, contract labour and rent to non-operator landlords.

**Net Farm Income:** the gross farm income less cash expenses and non-cash expenses, such as capital consumption and farm household expenses.

**Net Cash Income:** a short-term measure of cash flow.



## 4.0 CONCLUSION

In this unit, you have learnt the basic concepts associated with profit and loss statement and how to prepare the profit and loss statement.

## 5.0 SUMMARY

The profit and loss statement is a farm account that indicates the profitability or otherwise of a business enterprise. It consists the farm income and expenditure (cash and non-cash). The difference between the total income and total expenditure is known as net farm income (NFI). If it is positive, it indicates profit while negative net farm income indicates loss.

## 6.0 TUTOR- MARKED ASSIGNMENT

1. Explain briefly profit and loss statement in a farm business.
2. Consider agribusiness enterprise transactions below and use the information to prepare a profit and loss statement for Jonathan agro-allied firm Limited for the year ended 31 December, 2012.

Sales of eggs	80, 250.00
Cost of incubator	20,500.00
Cost of feeds	50,000.00
Cost of drugs	23,210.00
Eggs for domestic use	14,700.00
Loss due to mortality	2,000.00
Value of stock left	3000.00
Sales of broilers	98,720.00
Farm wages	31,020.00
Broilers for domestic use	26,100.00
Sales of manure	24,880.00
General expenses	8,560.00
Sales of day old chicks	38,120.00
Packaging cost	18,570.00
Transportation cost	13,240.00
Depreciation	5000.00
Equipment maintainance cost	4,800.00
Electricity	4000.00
Net Profit	70, 620.00

## 7.0 REFERENCES/FURTHER READING

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*.  
Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981) *Farm Management: Planning, Control and Implementation*.

## **UNIT 2 BALANCE SHEET**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Balance Sheet Analysis
  - 3.2 Assets
    - 3.2.1 Types of Assets
  - 3.3 Liabilities
    - 3.3.1 Types of Liabilities
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

Balance sheet is a farm account that shows the financial health of a farm at appoint in time. It balances the assets against liabilities and owner's equity. The difference between total assets and total liabilities is known as owner's equity or networth. The magnitude of the networth of a farm enterprise is very important to financial institutions, thus it is a significant determinant of availability of credit facility.

### **2.0 OBJECTIVES**

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

- define or explain the meaning of assets, liability and different forms of assets and liabilities
- describe the fundamental accounting equation
- Prepare balance sheet.

### **3.0 MAIN CONTENT**

#### **3.1 Balance Sheet Analysis**

A balance sheet or a net worth statement is a detailed listing of assets, liabilities, and net worth at a given time. It balances assets against liabilities and net worth. A balance sheet is often described as a "snapshot of a company's financial condition". Balance sheet applies to a single point in time of a business calendar year. It is a physical representation of the 'accounting equation.' The equation states that at

any point in time, the assets of the business are equal to the sum of the liabilities and owner's equity. The accounting equation is:

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

The equation also forms the basis of the statement structure, which mirrors the three aspects of the equation. The three parts are:

- 1) assets,
- 2) liabilities and
- 3) owner's equity.

We shall discuss the three parts one after the other.

## 3.2 Assets

Assets are anything that the business owns. Farm assets include land, buildings, tractors, cutlasses, vehicles, inventory etc. This expands the definition to encompass all that the business has acquired by purchase or by owner contributions. Farm assets can be classified into three categories according to their length of life, their cash liquidity, and their effect on production in the farm business. The categories are called current, intermediate-term, and long-term farm assets. A fourth category lists nonfarm assets.

### 3.2.1 Types of Assets

- (a) **Current farm assets:** Current assets are assets that can be consumed in production or that will be sold during the year. Examples are crops, livestock, and supplies. Current assets also include cash, accounts receivable and other assets that are easily converted to cash without affecting the business operation. They comprise prepaid expenses, supplies, crops, livestock, and other items that will be consumed in production or that will be sold during the year.
- (b) **Intermediate farm assets.** These are assets that support farm production and have a useful life of more than one but less than 10 years. Breeding livestock, tools, vehicles, machinery, and equipment fall into this category. Unlike current assets, intermediate assets are not easily converted to cash.
- (c) **Fixed Farm assets.** These are assets that have a useful life of more than 10 years. These assets are difficult to convert to cash, and converting such assets to cash would seriously affect farm

production. Fixed or long-term assets include farmland, buildings and land improvements.

- (d) **Nonfarm assets.** This is another section included on the asset side of the balance sheet. For many farmers, personal items such as a home, furnishings, and vehicles are considered part of the farm operation. If they are not included in the farm asset categories, they may be included in the nonfarm asset section. However, some individuals choose not to include personal items on the balance sheet. In this case, the nonfarm asset section would be left blank.

### 3.3 Liabilities

Liabilities are claims that individuals or other organisations have against the assets of the farm firm. These claims can take several forms. Some are both short- and long-term loans, bills for utilities, rent, employee expenses, bonds, taxes and many other items. They reduce the total value of the assets. Liabilities are categorised into three on the basis of duration of repayment.

#### 3.3.2 Types of Liabilities

They are current liabilities, Intermediate liabilities and long term liabilities.

- (a) **Current liabilities:** These are debts that are due for repayment within one business year. They include farm accounts payable and accrued expenses such as rent, interest, and taxes. Short-term notes such as those you use to cover operating loans and the principal on longer-term liabilities due within the next year are also listed in this category. These liabilities correspond somewhat to current assets since funds needed to make payments on these liabilities may have to come from liquidating current assets.
- (b) **Intermediate liabilities.** These are liabilities that are due for repayment between one and ten years from the date on the balance sheet. Loans for breeding livestock, machinery and equipment are typical of this category.

### 3. Long-term liabilities.

Liabilities with a term of 10 years or longer are classified as long term liabilities. Assets with a long or indefinite life such as buildings and improvements are long term liabilities . These liabilities correspond to long-term assets. The long-term assets will generate income needed to make payments on these liabilities when they are due.

A farm balance sheet containing the components discussed above is presented below:

**Balance sheet for Ola farms as at 31st December, 2012**

<i>Assets</i>		<i>Liabilities and Equity</i>	
<b>Current</b>	<b>₦</b>	<b>Current</b>	<b>₦</b>
Cash at hand and in bank	2,200	Accounts payable	
Accounts receivable	11,740	Bank operating loans	
Market livestock	92,420	Intermediate debt due this year	11,375
Crops & produce for sale		Long term debt due this year	3,938
Feed and farm supplies	149,065	Other	
Growing crops	1,600	Interest-intermediate loans	12,602
Others	40,500	Interest-long term loans	31,317
		Total Current	59,232
Savings	3,500	<b>Intermediate Liabilities</b>	
Total current	301,025	Loan on tractor	20,000
<b>Intermediate</b>		Breeding stock	28,133
Breeding livestock	134,430	Planter and Sprayer	50,000
Machinery & equipment	105,321	Total intermediate	98,133
Other		<b>Long term (over 10 years)</b>	
Depreciable property	25,073	Farm Credit Mortgage	85,227
Total intermediate	264,824	First Bank	224,000
<b>Fixed</b>		Total long term	309,227
Land and buildings		<b>Total Liabilities</b>	<b>466,592</b>
Land	460,500	<b>Net worth</b>	<b>841,179</b>
Depreciable property	143,422		
Dwelling	138,000		

Total fixed assets	741,922		
<b>Total assets</b>	<b>1,307,771</b>		

#### 4.0 CONCLUSION

You have learnt in this study unit, the meaning of balance sheet as well as the meaning of asset, liability and different types of assets and liabilities. You have also learnt how to prepare balance sheet.

#### 5.0 SUMMARY

Assets refer to valuable items owned by a farm while liability is the claim that an individual or organisation has against the farm. Types of assets include current, intermediate and fixed assets. Types of liability are current liability, intermediate liability and long term liability. Balance sheet is a financial position that shows the financial status of a farm at a point in time.

#### 6.0 TUTOR-MARKED ASSIGNMENT

1. Differentiate between the following terms

- (i) Assets and liabilities
- (ii) Current assets and current liabilities
- (iii) Balance sheet and networth

2. Balance sheet for Glory Farms at year ended 2012 is presented below:

<b>Assets</b>		<b>Liabilities</b>	
Current assts	₦40,000	Current liabilities	*****
Intermediate assets	₦50,000	Intermediate liabilities	₦10,000
Fixed assets	*****	Long term liabilities	₦40,000
		Total liabilities	₦110,000
Networth	*****		
Total assets	₦290,000		
Total liabilities + networth	*****		

Calculate and supply the missing values in the balance sheet for Glory Farms.

## **7.0 REFERENCE/FURTHER READING**

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation* ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.



## **UNIT 3 FARM BUSINESS ANALYSIS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Balance Sheet Analysis
  - 3.2 Income Statement Analysis
    - 3.2.1 Value of Production (VOP) or Total Value Product (TVP)
    - 3.2.2 Net Farm Income (NFI)
    - 3.2.3 Gross Margin
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

Farm business analysis is the process of retrieving, organising, processing, and analysing information used in farm business decision making. It is a critical ingredient in the management of the modern farm. Managers must be able to quickly respond to changes in the prices of the inputs and the products if they are to maintain farm profitability. The knowledge of farm business analysis is a necessity for all farm managers not only to maintain farm profitability but also to take advantage of opportunities of available credit facility.

### **2.0 OBJECTIVES**

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

- define business analysis
- explain balance sheet analysis
- explain income statement analysis.

### **3.0 MAIN CONTENT**

#### **3.1 Balance Sheet Analysis**

A review of the balance sheet provides insight into the financial health of the business. Comparison of balance sheets from a business through time is a good indicator of performance of the business. The analysis of balance sheet begins with a comparison of total assets

and liabilities. The difference between total assets and liabilities is the net worth of the farm business. If total liabilities exceed total assets, the business is insolvent and net worth is negative. If on the other hand the total asset is greater than total liabilities, the farm business is solvent and the networth or owners equity is positive.

The net worth of a business on a given date indicates owner equity and is a major factor that financial institutions consider before granting loans because it is an indicator of risk involved in loan advancement. The extent to which a loan is secured depends on the magnitude of the networth. If networth is large relative to total assets in the business, it signifies good security for the loan and the chance of loss is small. A smaller net worth may present an obstacle to securing credit because risk of loss to the lender is greater.

Comparison of current assets and current liabilities of a farm is an indicator of the liquidity of the farm. This implies that the farm has ability to meet cash obligations as they become due.

A farm with a balance sheet in a healthy financial condition will have current assets exceeding current liabilities. Typically, that excess should be one-and-one-half to twice as much in current assets as in current liabilities. The excess is needed for the following reasons:

1. It serves as a financial cushion in case of rapid change in prices of the components of the current assets. A rapid fall in price will reduce the liquidity of a farm business that has barely enough current assets to cover current liabilities.
2. Excess of current assets over current liabilities is a necessary indicator of financial healthiness of a farm business because the excess is a source of working capital for the business. Working capital is the source of funds for the current operating expense - items that must be purchased on a day-to-day schedule to keep the business operating. If there is a deficiency of working capital, the business must borrow additional funds or it must liquidate intermediate assets to secure working capital. The procurement of additional credit often takes time. If intermediate assets are liquidated, the assets that produce income for the business have been removed and future income flow will be reduced. Thus, asset liquidation is not a viable long-term alternative.

### **3.2 Income Statement Analysis**

Net farm income is the “bottom line” on the income statement and a good place to begin the analysis procedure. This figure represents return to unpaid operator and family labour, equity capital, and management. Over the long- term, *net farm income* is the amount available for discretionary use by the family and for business development. The net farm income is discussed in detail below.

### **3.2.1 Value of Production (VOP) or Total Value Product (TVP)**

This represents the values of all output of the farm. This amount represents the accrued value of commodities produced during the fiscal (or calendar) year.

Farm Cash Receipts + (Change in Value of Product Inventory + Change in Value of Accounts Receivable) - Livestock Purchases.

### **3.2.2 Net Farm Income (NFI)**

Net farm income, (farm profit or loss based on operating earnings), is net cash operating income (farm receipts minus farm expenses) plus the adjustment for value of products consumed by the family, plus inventory adjustment, plus adjustments for accounts payable and receivable, and minus depreciation. This is not a ratio by definition, but it is included as it represents the bottom line for farms and a starting point for analysis. The problem with net farm income is that it does not relate the income to the size of the investment. This is the advantage of using return on assets as a measure of profitability.

**Net Farm Income (NFI) = Total Value of Production (TVP) - Direct Costs – Depreciation.**

### **3.2.3 Gross Margin**

This margin represents the excess of revenue or total value of production over the cost of variable inputs. Gross margin indicates funds available to cover unallocated fixed costs, returns to unpaid operator & family labour, and returns to owner's / share holder's equity.

**Gross Margin= Total Value of Production – Total Variable Cost (TVP – TVC)**

## **4.0 CONCLUSION**

In this unit, we have analysed the balance sheet and profit and loss statement. The analysis of the balance sheet indicates the solvency, liquidity or otherwise of a business enterprise while the analysis of income statement indicates the profitability of the business enterprise.

## **5.0 SUMMARY**

Balance sheet analysis shows the financial health of a farm business while the income statement reveals the profitability or otherwise of a business enterprise. Analysis of the balance sheet involves comparison of total assets and total liabilities. If the total asset is greater than total liability, the farm is solvent, if otherwise, it is insolvent. Gross margin, net farm income and value of production are derived from the income statement.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Discuss how you will ascertain the financial healthiness of a farm business.
2. State the importance excess of current liabilities over the current liabilities?
3. What is networth? Why is it so important to financial institutions?
4. Define or explain the following terms: (i) Gross margin (ii) Net farm income.

## **7.0 REFERENCES/FURTHER READING**

- A. J. Adegeye & Dittho (1998). *Essential of Agricultural Economics*.  
Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

## UNIT 4 FARM RATIOS I

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Categories of Ratios 1
  - 3.2 Liquidity Ratios
    - 3.2.1 Current Ratio
    - 3.2.2 Quick Ratio
  - 3.3 Leverage Ratios
    - 3.3.1** Net Capital Ratio
    - 3.3.2** Debt/Equity Ratio
    - 3.3.3** Total Debt/Total Assets Ratio
    - 3.3.3 Time Interest Earned Ratio (TIER)
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### 1.0 INTRODUCTION

A number of ratios have been developed to help in review of the balance sheet. These ratios are useful tools for the evaluation of the farm financial healthiness of a business enterprise. These ratios are discussed in next section. Four categories of ratios can be calculated from balance sheet and income statement for the purpose of making financial decisions.

### 2.0 OBJECTIVES

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

- list the categories of farm ratios
- state the components of each category of ratio
- calculate and interpret each category of ratio.

### 3.0 MAIN CONTENT

#### 3.1 Categories of Ratios I

There are four categories of ratios that can be obtained from balance sheet and profit and loss statement. Three categories of ratios (Liquidity, Leverage and Activity ratios) can be calculated from balance sheet while

one category (Profitability ratios) can be derived from income statement. The categories of ratios are:

- (1) Liquidity ratios
- (2) Leverage ratios
- (3) Activity ratios and
- (4) Profitability ratios

In this unit, we shall consider liquidity and leverage ratios in detail.

## 3.2 Liquidity Ratios

Liquidity ratios are the ratios that measure the ability of a business enterprise to meet its short term debt obligations. These ratios measure the ability of a business to pay off its short-term liabilities when they fall due. They show the number of times the short term debt obligations are covered by the cash and liquid assets. If the value is greater than 1, it means the short term obligations are fully covered. Generally, the higher the liquidity ratios are, the higher the margin of safety that the business enterprise possesses to meet its current liabilities. Liquidity ratios greater than 1 indicate that the business is in good financial health and it is less likely to fall into financial difficulties.

There are two main liquidity ratios which are used to help assess whether a business has sufficient cash or equivalent current assets to be able to pay its debts as they fall due. In other words, the liquidity ratios focus on the **solvency** of the business. A business that finds that it does not have the cash to settle its debts becomes insolvent.

Liquidity ratios focus on the **short-term** and make use of the **current assets and current liabilities** shown in the balance sheet. The two main liquidity ratios are:

### 3.1.1 Current Ratio

Current ratio is a simple ratio that estimates whether the business can pay debts that fall due within one year out of the current assets. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time.

$$\text{Current ratio} = \frac{\text{Current asset}}{\text{Current liability}}$$

From Ola farms balance sheet, the

$$\text{Current ratio} = \frac{301,025}{59,232} = 5.08$$

The current ratio is approximately 5, which implies that the farm can meet its current obligations five times. This result indicates that the farm is financially safe in the very short term.

### 3.1.2 Quick ratio

The quick ratio which is also called the 'acid test' ratio is more severe test than the current ratio because it involves deduction of the component of current assets that are not in cash form or ready cash from the current assets.

The quick ratio is calculated thus:

$$\text{Quick ratio} = \frac{\text{Current asset} - \text{Inventories}}{\text{Current liability}}$$

Inventories refer to stock of goods that are ready for sale. Inventories are assumed to be the most illiquid aspect of the current assets. The quick ratios of the Ola farms is

$$\text{Quick ratio} = \frac{301,025 - 92,420}{59,232} = 3.25$$

The quick ratio is 3.25 which is less than the current ratio, which implies that the farm can meet its debt obligation 3 times using its current assets. This signifies that the acid test ratio is better than the current ratio because in case of financial difficulty, it will not be easy to convert the inventories to cash.

## 3.3 Leverage Ratios

These are ratios that measure the ability of the farm business to honour short and long term obligations. A high leverage ratio is an indicator that the farm is not financially buoyant to pay off its debts. It is on this premise that business owners aim at low leverage ratios. Leverage ratios are measure of solvency of the business enterprise. Leverage ratios include Net capital ratio, debt/equity ratio, total debt to total asset ratio, which is the reciprocal of the net capital ratio and times interest earned ratio (TIER).

### 3.3.1 Net Capital Ratio

The *net capital ratio* is a common measure of solvency. The net capital ratio is total assets divided by total liabilities. A business is solvent if the ratio is greater than one. This means that there is more than one naira worth of assets for each naira of liabilities. However, a financially healthy business will have a net capital ratio of approximately 2.5 or more. This means that owner's equity is 60 percent or more of the total assets used in the business.

$$\text{Net Capital Ratio} = \frac{\text{Total Assets}}{\text{Total Liabilities}}$$

$$\text{In Ola farms, the Net Capital Ratio (NCR)} = \frac{841,179}{466,592} = 2.78$$

The NCR value of 2.78 implies that the farm is solvent and it indicates that the farm is financially healthy.

### 3.3.2 Debt/Equity ratio

Debt/Equity ratio is the ratio of total debt to equity or networth. It measures the ability of a business to honour a long term obligation. It is an indicator of the amount of money borrowed per naira of the farmers own capital used in the business. Lenders often refer to this ratio because they prefer to make loans to that borrower who has equity of 50 percent or more of total assets used in a business. Thus, lenders prefer a debt-equity ratio of less than one. This indicates that the owner's contribution is more than that of the lender.

There is tendency for new farm business enterprise to have high debt/equity ratio due to initial capital requirement that are sourced from financial institutions or individuals. However, ploughing back profit into the business will reduce the debt equity ratio to a level that will enable the farm to honour its long term obligation. The debt/equity ratio is given as:

$$\text{Debt/Equity ratio} = \frac{\text{Total Liabilities}}{\text{Equity (Networth)}}$$

$$\text{In our example, the ratio is given as Debt Equity ratio} = \frac{466,592}{841,179} = 0.55$$

The debt equity ratio of 0.55 indicates that for every one naira owned by the farmer, 55 kobo was borrowed. This implies that this particular farm is low leveraged and financial institutions will be encouraged to grant loans and advances to the farm.

### 3.3.4 Total Debt/Total Assets Ratio



This ratio shows the relationship between the total liabilities and total assets of a farm business enterprise. It is the reciprocal of net capital ratio (NCR), which is the ratio of total assets to total liabilities. Total debt/ total assets ratio serves as an indicator of the proportion of each naira utilised in the business that is borrowed. The ratio is calculated thus:

$$\text{Total Debt/Total Assets Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

In our example from Ola farms balance sheet, the ratio is

$$\text{Total Debt/Total Assets Ratio} = \frac{466,592}{1,307,771} = 0.36$$

The Total Debt/Total Assets Ratio being 0.36 indicates that for every naira used in the farm 36 kobo was borrowed.

### 3.3.5 Time Interest Earned Ratio (TIER)

Times interest earned ratio (TIER) or interest coverage ratio is a measure of a business ability to honour its interest and tax payments. It may be calculated as either EBIT divided by the total interest payable. If interest coverage ratio is smaller than 1, it means that the farm business is not generating enough cash from its operations Earnings Before Interest and Taxes (EBIT) to meet its interest obligations. Typically, it is a warning sign when interest coverage falls below 2.5. A lower times interest earned ratio means less earnings are available to meet interest payments and that the business is more vulnerable to increase in interest rates.

$$\text{Time Interest Earned Ratio (TIER)} = \frac{\text{EBIT}}{\text{Interest Charges}}$$

## 4.0 CONCLUSION

In this study unit, entitled category of ratios I, you have learnt about the liquidity ratios and leverage ratios.

## 5.0 SUMMARY

Liquidity ratios indicate the solvency of the farm. They include current and quick ratio (or acid test ratios). The leverage ratios are indicators of the ability of the farm to honour its financial obligations as at when due. Low leverage ratios are desired by entrepreneurs.

Leverage ratios are net capital ratio, debt/equity ratio and total debt total asset ratio.

## **6.0 TUTOR-MARKED ASSIGNMENT**

Copy the balance sheet for Glory Farm in unit 2 and calculate

- (i) the liquidity ratios (Giving that inventory is ₦5000.00and.
- (ii) the leverage ratios.

## **7.0 REFERENCES/FURTHER READING**

- A. J. Adegeye & Ditthoh (1998) *Essential of Agricultural Economics*.  
Kay, Ronald D. (1981). *Farm Management: Planning, Control  
and Implementation*.

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

## UNIT 5 FARM RATIOS II

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Profitability Ratios
    - 3.1.1 Return on Farm Assets (ROA)
    - 3.1.2 Return on Farm Equity (ROE)
    - 3.1.3 Operating Profit Margin Ratio
  - 3.2 Activity Ratios
    - 3.2.1 Average Collection Period
    - 3.2.2 Inventory Turnover
    - 3.2.3 Fixed Assets Turnover
    - 3.2.4 Total Assets Turnover
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### 1.0 INTRODUCTION

We have considered two categories of farm ratios, liquidity and leverage ratios in unit 5. The other two ratios-profitability and activity ratios shall be considered in this unit.

### 2.0 OBJECTIVES

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

- state the profitability of ratios
- calculate each ratio in each category
- give the interpretation of each ratio.

### 3.0 MAIN CONTENT

#### 3.1 Profitability Ratios

Profitability ratio is one of the most frequently used tools of financial ratio analysis. Profitability ratios are used to determine the business bottom line and its return to its investors. It shows a farm enterprise overall efficiency and performance. Profitability ratios are designed to measure a firm's ability to generate profit. The ratios are:

##### 3.1.1 Return on Farm Assets (ROA)

This ratio represents the total income generated from the farm divided by the total assets employed to generate this income. Unpaid family labour is subtracted as it represents a non-cash expense. This adjustment helps to compare farms which pay family wages to those that do not. In comparisons of ROAs of farms, there is the need to know whether assets are valued at or valued at market prices because with market valuation, the confidence in the value will depend upon the accuracy of the appraisal of the property.

One major strength of ROA lies on the fact that it does not differentiate on how the operation is financed as interest payments are included in income.

**Return on Farm Assets (ROA)** = (NFI + Interest Expense - Unpaid Operator & Family Labour)/Total Farm Assets = Return to Assets/Total Farm Assets

### 3.1.2 Return on Farm Equity (ROE)

This ratio represents the income generated from the owner's equity in the farm business. As is the case for return on assets, the estimate of market values will have a large impact on the value. The return on equity should be higher than the return on assets over the long-run. This assumes that the manager is using debt leverage for an advantage. There is a trade-off here between a high return on equity and high risk as the two are positively correlated.

**Return on Farm Equity (ROE)**

= (NFI - Unpaid Operator & Family Labour)/Total Farm Equity  
= Return to Farm Equity/Total Farm Equity

### 3.1.3 Operating Profit Margin Ratio

This ratio measures the portion of each naira of revenue that trickles down to the income statement to profits. A low profit margin can be compensated for with a higher asset turnover. Thus this ratio must be viewed in the context of the capital turnover. Highly capitalised operations tend to have a higher profit margin combined with a low capital turnover.

**Operating Profit Margin Ratio** = Return to Farm Equity/Value of Production  
= ROE/VOP

## 3.2 Activity Ratios

Activity ratios, sometimes referred to as operating ratios or management ratios, measure the efficiency with which a business uses its assets, such as inventories, accounts receivable, and fixed (or capital) assets. The more commonly used operating ratios are the average collection period, the inventory turnover, the fixed assets turnover, and the total assets turnover.

### 3.2.1 Average Collection Period

This ratio applies to credit sales. The ratio measures how long a firm's average sales naira remains in the hands of its customers. A longer collection period may not allow the firm to meet monetary obligations. Increase in ACP is a call to tightening of credit sales. The average collection period is calculated in two steps. The first step is calculating the average daily sales, which is done by dividing the total annual net sales by 365 days. The second step is dividing the average daily sales into accounts receivable.

$$\text{Average Collection Period} = \frac{\text{Account Receivables}}{\text{Average Daily Sales}}$$

### 3.2.2 Inventory Turnover

This ratio measures the number of times investment in inventory is turned over during a given year. The higher the turnover ratio, the better, since a farm with a high turnover requires a smaller investment in inventory than one producing the same level of sales with a low turnover rate. Company management has to be sure, however, to keep inventory at a level that is just right in order not to miss sales.

$$\text{Inventory Turnover (IT)} = \frac{\text{Total Sales}}{\text{Average Inventories}}$$

This ratio indicates the efficiency in turning over inventory and can be compared with the experience of other firms or farms in the same industry. It also provides some indication as to the adequacy of a company's inventory for the volume of business being handled.

### 3.2.3 Fixed Assets Turnover

The fixed (or capital) assets turnover ratio measures how intensively a firm's fixed assets such as land, buildings, and equipment are used to generate sales. A low fixed assets turnover implies that a firm has too much investment in fixed assets relative to sales; it is basically a measure of productivity.

$$\text{Fixed Asset Turnover (FAT)} = \frac{\text{Total Sales}}{\text{Fixed Assets}}$$

### 3.2.4 Total Assets Turnover

This ratio takes into account both fixed asset and current assets. It also gives an indication of the efficiency with which assets are used. A low ratio means that excessive assets are employed to generate sales and/or that some assets (fixed or current assets) should be liquidated or reduced.

$$\text{Total Asset Turnover} = \frac{\text{Total Sales}}{\text{Total Assets}}$$

## 4.0 CONCLUSION

In this study unit, you have learnt about categories of farm ratios, importance of each ratio and the thresholds that ensure solvency, liquidity and profitability of agribusiness enterprise.

## 5.0 SUMMARY

There are three farm ratios namely the liquidity ratios, solvency ratios, and profitability ratios. The liquidity ratios and solvency ratios are derived from balance sheet while profitability ratios are calculated from income or profit and loss statement. On the basis of the ratios, the financial status and viability of a business enterprise can be determined.

## 6.0 TUTOR-MARKED ASSIGNMENT

Use the transactions for Jonathan agribusiness enterprise under Profit and loss statement to:

- (i) Calculate the profitability ratios.
- (ii) Interpret the ratios.

## **7.0 REFERENCES/FURTHER READING**

- Adegeye, A. J. & Ditthoh (1998). *Essential of Agricultural Economics*.  
Kay, Ronald D. (1981). *Farm Management: Planning, Control  
and Implementation*.

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## **UNIT 6 CASH FLOW ANALYSIS**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 What is Cash Flow?
    - 3.1.1 Importance of Cash Flow
    - 3.1.2 Preparation of Cash flow
    - 3.1.3 Analysis of Cash Flow
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

The cash flow plan is an essential financial management tool for agribusiness. It addresses one of the most serious financial problems faced on farms today—the control of cash flow. The cash flow plan is the focal point of the annual farm planning process. If the cash flow plan is prepared carefully and in sufficient detail, it will provide a financial picture of the operator's enterprise selections, input needs, feed requirements, credit needs and repayment capacity, family living needs, and marketing plans. To be most useful, the cash flow should be prepared on a projected basis; that is, it should represent a plan for the future. Actual cash flow (farm receipts and expenses) can then be compared with the projection to provide an early check on business progress and an opportunity to make timely adjustments if required.

### **2.0 OBJECTIVES**

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

- define or explain the meaning of cash flow
- state the importance of cash flow projection in agribusiness enterprise
- describe methods and steps involved in cash flow preparation
- prepare cash flow
- analyse cash flow.



### **3.0 MAIN CONTENT**

#### **3.1 What is Cash Flow?**

Cash flow is can be defined as projection or actual estimates of the flow of revenue into the farm business and the flow of actual or projected expenditures out of the business. Cash flow plan is an essential financial management tool for farmers. It addresses the problem associated with the control of cash. Cash flow says nothing about profitability of the business; profitability information is available only from the income statement. Cash flow includes no consideration of inventory change, accounts payable or receivable, or depreciation. Due to absence of this information, profitability decision made on the basis of cash flow will be grossly misleading.

##### **3.1.1 Importance of Cash Flow**

1. The cash flows are important because they indicate when cash surpluses or deficiencies will occur.
2. It provide a financial picture of the farm enterprise selections, input needs, feed requirements, credit needs and repayment capacity, family living needs, and marketing plans.
3. Cash is used in estimating amounts and time of financial transactions.
4. It allows comparison between actual cash flow (farm receipts and expenses) and projected cash flow which will enable the manager check for business progress or otherwise and thereby make timely adjustments if required.

##### **3.1.2 Preparation of Cash Flow**

Cash flow should be prepared on monthly and annual basis. The monthly cash flow will afford the farm manager to determine specific dates when loans are needed, when loan repayment can be made, and when inputs will be purchased. Cash flow is most useful if it is prepared on a projected basis; that is, it should represent a plan for the future.

A cash flow projection can be developed in either of two ways:

1. Cash flow projection can be prepared on the basis of information from last year farm operations. Revenue and expenses in the current year can be projected from last year's after making necessary adjustment based on price change and change in the farming operation. This approach is quick but may not provide a high degree of accuracy.

2. It can be prepared on the basis of the current year farm operations' plans. Steps required in this process are:
  - (a) The first step is determination of the scope of crop and livestock enterprises. This involves collection of detailed revenue and cost data about those enterprises, preparation of each enterprise budget and decide on technology to be adopted as well as inputs that will be used
  - (b) Step two is to estimate monthly enterprise income and expenses. To arrive at monthly cash flow, it is necessary to estimate when variable inputs will be needed and when machinery operations will be performed. Cost of the inputs and machinery operations must be determined. It is also necessary to determine when products will be sold and the amount of revenue that will be produced. The result of this process is an estimated monthly flow of income and expenses for all crop and livestock enterprises.
  - (c) Transactions related to capital investment must be planned. This will include purchases, trades, or sales of capital items.
  - (d) Nonfarm earnings should be included in the projected consolidated cash flow. Wages and salaries earned off the farm, interest income received from investments, and other nonfarm income sources should be included in the month they are expected to be received.
  - (e) Debt repayment should be planned and included for the month in which surplus funds will be available to make payment.

### **3.1.3 Analysis of Cash Flow**

The analysis of cash flow is largely a matter of continuous monitoring of receipts and expenditures and comparing what actually happens to projected cash flow.

A primary advantage of cash flow analysis is that it provides an early-warning system for the business in terms of financial affairs. When major differences between projected and actual cash flow occur, the manager should review the financial transactions and production practices to determine the reason for the differences.

The focal points for cash flow analysis are total cash receipts, total cash expenses, new debts, interest and principal payments, and cash balance. Projected amounts for each of these should be compared with actual experience at least on a monthly basis. Major differences between projected and actual cash flow may indicate the need for changes in crop or livestock production plans, planned new capital investment, or planned family living expenditures.

Caution must be exercised in using cash flow to evaluate the health of a farm business. Cash flow can only indicate if current returns will pay current expenses, debt, family living, and other current obligations included in the cash flow document. An analysis of the health of a farm business should include a review of the balance sheet and the income statement, as well as the cash flow.

<b>Annual Cash Flow</b>			
<b>Cash inflow</b>		<b>Cash outflow</b>	
<i>Operating income</i>	₦	<i>Operating expenditures</i>	₦
<i>Crops</i>		Hired Labor	12,000
Maize	54,000	Machinery repair and maintenance	60,000
Cassava	46,200	Building and fence repair	12,000
Wheat		Interest	90,000
Soybeans		Hay	2,500
Cotton		Feed	27,000
Grass and clover seed		Seeds, twine, etc.	20,762
Hay, silage		Agro chemicals	20,482
Other, crop		Fertilizer and lime	90,748
Government payments		Machine hire	20,500
<i>Livestock</i>		Livestock supplies	90,900
Broiler	50,000	Vet and medicine	10,800
Eggs	67,000	Energy (Fuel, Electricity)	70,396
Calves	3,540	Rent	50,000
Market hogs		Taxes	15,000
Other market livestock		Insurance	-
<i>Miscellaneous</i>		Utilities, electric, phone	3,000
Custom work		Freight and trucking	-
Cash rent		Farm auto	500
Other, farm		Feeder cattle	
Total operating income	130,560		
<i>Capital sales</i>		Other expenses (2% subtotal)	1,846
Breeding beef		Total operating expense	94,168
Breeding hogs		<i>Capital expenditures</i>	
Breeding cow	7,800	Breeding beef	
Machinery and equipment		Breeding hogs	

Total capital sales	7,800	Breeding dairy	
Total cash income	138,360	Machinery and equipment	9,000
<i>Other income</i>	6,000	Total capital expenditures	25,000
Loans		Total farm expenditures	
Total cash available	144,360	<i>Other cash outflow</i>	
		Principal payments	7,000
		Family living	16,600
		Total cash outflow	142,768
		<i>Summary</i>	
		Cash balance	1,592
		Accumulated borrowing	

#### 4.0 CONCLUSION

In this unit, you have learnt the meaning of cash flow, importance of cash flow as well as preparation and analysis of cash flow.

#### 5.0 SUMMARY

Cash flow can be defined as projection or actual estimates of the flow of revenue into the farm business and the flow of actual or projected expenditures out of the business. Cash flow indicates when the surpluses and deficiencies of cash will occur, provides a financial picture of the farm enterprise selections. Cash flow should be prepared on monthly and annual basis.

#### 6.0 TUTOR-MARKED ASSIGNMENT

1. What is cash flow?
2. State the importance of cash flow.
3. Itemise the steps in preparing a cash flow for an agribusiness enterprise.

#### 7.0 REFERENCES/FURTHER READING

Adegeye, A. J. & Dittho (1998). *Essential of Agricultural Economics*.

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## **MODULE 5      MARKETING MANAGEMENT AND AGRICULTURAL FINANCE**

Unit 1	Meaning and Importance of Agricultural Marketing
Unit 2	Marketing Functions
Unit 3	Marketing Management
Unit 4	Agricultural Financing
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### **UNIT 1      MEANING AND IMPORTANCE OF AGRICULTURAL MARKETING**

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#### **1.0      INTRODUCTION**

Production is incomplete until the products are in the hands of consumers. All activities that are involved between the time the product leaves the farm gate and the time it reaches the consumers is known as marketing. Marketing activities include processing, transportation, storage, financing and risk bearing. Marketing is important in several respects. It enables the agricultural products to reach the consumers in the form and quality that will maximise the utility of the buyers.

#### **2.0      OBJECTIVES**

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

- identify the relevance of marketing to and agribusiness in developing countries  
define marketing concept
- describe the structure of Agricultural Product Markets
- give reasons why it is necessary to implement the marketing concept throughout food and agricultural marketing systems
- list functions of marketing, and
- state the modes of operation of some of the major types of agricultural and food marketing enterprises.

### 3.0 MAIN CONTENT

#### 3.1 Meaning and Importance Agricultural Marketing

Agricultural Marketing has two components - "Marketing" and "Agricultural products", which also must be understood.

##### 3.1.1 Definition of Marketing

Marketing may be defined in slightly different ways depending on the context in which it is being discussed. A layman's definition could be too simplistic or at times completely erroneous. For example, some people have defined marketing merely as "buying and selling" which just focuses on a part of the concept. Others have defined Marketing as "the satisfaction of human needs and wants through the exchange process".

For our purpose, we shall define marketing as the series of human activities by which a product is exchanged between the producer and the consumer during which the place, time, form and possession desires of the consumer are satisfied.

##### 3.1.2 Key Elements of the Definition

The above definition contains some key elements which must be properly understood.

- (a) **Series of activities:** Marketing involves a number of activities or functions performed by the marketers. These include buying and selling, transportation, processing and storage, financing, risk-bearing and market intelligence. These series of activities are marketing functions, which shall be discussed in unit 2.
- (b) **Product:** There has to be a product to be marketed. The product may be a good or a service. Agricultural products often marketed

include produce like cocoa, coolants, and palm produce and by-products like hides and skin, gari and yam flour.

- (c) **Producer and Consumer:** There are always two parties, at least which are involved in a marketing process. One party produces the product, while the other receives it.
- (d) **Satisfaction of wants:** The place or time or form in which the consumer wants the product is satisfied. The consumer also satisfies his desire to possess the product.
- (e) **Agricultural products:** It refers to all commodities obtained from the growing of crops and the rearing of livestock on the farm. They are commodities that are obtained from man's direct activities on the land. These include cocoa, groundnuts, rice, yams, cassava, poultry, sheep and goats, cattle, pigs and so on and all the materials derived from these primary commodities within the farm setting such as gari, milk, hides and skin and so on.

### 3.2 The Structure of Agricultural Products Markets

Markets are classified according to their structure, into pure monopoly; duopoly, oligopoly, pure competition, or monopolistic competition. At one end, there is monopoly market in which there is only one seller but many buyers of the commodity of interest and the seller exploits the market for maximum benefit. At the other end, there is pure competition in which there are many sellers and buyers of the commodity and neither the seller nor the buyer of the commodity is able to exploit the situation. A combination of these two extreme situations leads to the monopolistic competition in which there are a fairly large number of sellers and buyers. The market for agricultural products approximates the monopolistic competition, and we shall therefore briefly examine the characteristics of this market.

#### 3.2.1 Monopolistic Competition

The norms of monopolistic competition are;

1. The presence of a fairly large number of seller (farms) and buyers (consumers) of the commodity.
2. The commodity is not homogeneous in nature but differentiated slightly, for example gari has different brands such as "olo'nyo", "iteko", and "koko-gari or rice which has "aroso", 'agric' and "ofada" all of which attract different prices.
3. The product has only close but not perfect substitutes; for example cocoyam is a close substitute to white yams in the

preparation of pounded yam. Similarly, sorghum is a close substitute to maize in the making of palp.

4. Each firm (farm) has no firm control over prices but can determine its own output and price policies without consulting others.
5. The free entry and exit of firms (farms)
6. The demand for the commodity does not change in a high proportion to changes in price as in pure competition, but it changes in a better proportion than in pure monopoly.

### **3.3 Importance of Agricultural Marketing in Developing Countries**

The objectives of an efficient marketing system in developing countries are:

1. Agricultural marketing enables the primary producers to get the best possible returns,
2. It provides facilities for lifting all produce, the farmers are willing, to sell at an incentive price,
3. It reduces the price differentials between the primary producer and ultimate consumer,
4. It makes available all products of farm origin to consumers at reasonable price without impairing on the quality of the produce.
5. In many countries, and virtually every less developed country (LDC), agriculture is the biggest single industry. Agriculture employs over fifty percent of the labour force in LDCs with industry and commerce dependent upon it as a source of raw materials and as a market for manufactured goods. Hence, the development of agriculture vis-a-vis the marketing systems is the heart of the economic growth process in LDCs.
6. According to Dixie, 1989, agricultural marketing attempts to improve the rural incomes in developing countries. The inequality of incomes between the rural and urban areas draws people away from agricultural production and places great stress upon the infrastructure and social services of a country's towns and cities. Nowhere was this more dramatically demonstrated than in Nigeria when petroleum oil was discovered and then exploited in the 1970s. A large number of jobs were created in the urban areas and people abandoned agricultural production in large numbers. Nigeria became a net importer of many agricultural products of which it had formerly been a net exporter. For as long as the world price for petroleum remained high the economy thrived and could well afford the food import bill. However, as soon as the



world price for oil fell, the food import bill became a serious burden. Nigeria would have been able to avoid this scenario if she had been able to motivate people to continue in agriculture and this would only have been possible if the disparity between urban and rural incomes had been reduced. Rurally based enterprises, including small-holdings, can greatly improve their earning potential by adopting a market orientation. They can be encouraged to add value to commodities by adding to their utility. Value added products normally carry a higher margin than raw commodities.

### **3.4 Facilities Needed for Agricultural Marketing**

In order to have best advantage in marketing of his agricultural produce the farmer should employ certain basic facilities.

1. He should have proper and adequate storage facilities.
2. He should have holding capacity, in the sense, that he should be able to defer the sales of his product to the times when he could get better prices for his produce and not dispose of his products as soon as they are harvested when the prices are very low.
3. He should have access to adequate and cheap transport facilities which could enable him to take his surplus produce to the market rather than dispose it off in the village to the village money-lender or middle men or merchants at low prices.
4. He should have up-to-date information regarding the market conditions as well as about the prevailing prices, so as not to be cheated by the buyers.
5. The number of intermediaries should be as small as possible, so that the middleman's profits are reduced. This increases the returns to the farmers.

### **4.0 CONCLUSION**

Marketing and its importance in agribusiness and nature of agricultural products and the impact of the peculiar characteristics of agricultural products are the main theme you learnt in this unit.

### **5.0 SUMMARY**

Marketing includes all series of activities that are involved between farm gates until the products are in the hands of the final consumers. The series of activities are processing transportation financing etc. Agricultural product market is Monopolistic competition.

#### **4.0 TUTOR-MARKED ASSIGNMENT**

1. State the market structure of agricultural products and what are the characteristics of the market structure
2. State and discuss the importance of agricultural marketing in less developed countries.
3. What are the facilities that will engender efficient agricultural marketing?

#### **7.0 REFERENCES/FURTHER READING**

- Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.
- Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.
- Kohls, R.L. & Uhl, J.N. (1990). *Marketing of Agricultural Products*. (6th ed.). Macmillan Publishing Company pp. 18–21.



2. Risk Bearing
3. Market Intelligence

### **3.1.1 Exchange functions**

#### **Buying**

The marketing concept holds that the needs of the customer are of paramount importance. A producer is market oriented in his production activities when he purposely tailors production to meet specific demands or market opportunities. Thus a contract farmer who wishes to meet the needs of a food processor manufacturing sorghum-based malted drinks will only purchase improved sorghum seed. He/she will avoid any inputs likely to adversely affect the storage and/or processing properties of the sorghum and will continually seek new and better inputs which will add further value to his/her product in the eyes of the customer. In making his/her buying decisions his underlying consideration will be the effect upon the attractiveness of his/her output to the markets he/she is seeking to serve.

The buyer's motive is the opportunity to maintain or even increase profits and not necessarily to provide, for example, the best quality. In the course of producing attractive product to his buyer, he must be conscious of additional cost because the most successful agribusiness is the one which yields the largest difference between prices obtained and costs incurred.

#### **(b) Selling**

Of the nine functions listed, this is probably the one which people find least difficulty in associating with marketing. Indeed to many the terms marketing and selling are synonymous. Most firms practice the selling concept when they have over capacity. Their immediate aim is to sell what they can make rather than to make what they can sell. The enterprise aims at selling products that consist unctio n enables the practice.

There is no denying that 'high pressure selling' is practiced, where the interests of the consumer are far from foremost in the mind of the seller. This is not marketing. Enterprises adopt the marketing philosophy as a result of becoming aware that their own long term objectives can only be realised by consistently providing customer satisfaction. Whereas selling might create a consumer, marketing is about creating a customer. The difference is that marketing is about establishing and maintaining long term relationships with customers.

## **Storage**

Two major characteristics of agricultural production which makes storage an important marketing function are the perishability of agricultural products and the seasonality of agricultural production. While production is seasonal, demand for agricultural products is continuous throughout the year, hence the need for storage to allow a smooth, and as far as possible, uninterrupted flow of products into the market. In addition the biological nature of agricultural products does not give room for immediate response of supply to demand as it is in manufacturing industry.

In agricultural industry especially in Nigeria and other LDCs, supply often exceeds demand in the immediate post-harvest period or on-season. The glut reduces producer prices and wastage rates can be extremely high while supply exceeds demand during off season and the consumers have to pay premium prices to secure basic agricultural products. Storage function if well performed ensures availability of agricultural products throughout the year, which is beneficial to both the producers and consumers.

### **3.1.2 Physical Functions**

#### **(a) Transportation**

The transport function is the one that make the products available where it is needed, without adding unreasonably to the overall cost of the produce. Adequate performance of this function requires consideration of alternative routes and types of transportation, with a view to achieving timeliness, maintaining produce quality and minimising shipping costs. Effective transport management is critical to efficient marketing.

In LDCs, the poor road network makes the transportation cost to be high, which in essence increase the marketing cost and the final price of the products, thereby making many products unaffordable to the low income earners.

#### **Processing**

Most agricultural produce is not in a form suitable for consumption when it is first harvested. Rather it needs to be changed in some way before it can be used. The processing function is a marketing function because it is essentially a form changing activity. The form changing

activity adds value to the product. Changing cassava into gari or livestock feed, palm fruit bunches into palm oil or maize into feed increases the value of the product because the converted product has greater utility to the buyer. How the form of produce is to be changed and the methods to be used in bringing about such changes is a marketing decisions.

### **(a) Standardisation**

Standardisation is concerned with the establishment and maintenance of uniform measurements of produce quality and/or quantity. This function simplifies buying and selling as well as reducing marketing costs by enabling buyers to specify precisely what they want and suppliers to communicate what they are able and willing to supply with respect to both quantity and quality of product. In the absence of standard weights and measures trade either becomes more expensive to conduct or impossible altogether. In Nigeria there are diversities of weights and measures used with respect to many agricultural products. For instance, the measures for cassava tubers are different from state to state. In some cases and for several agricultural products such as plantain, banana, fruits and vegetables there is different from state to state. The merits of uniform standards are:

1. Price quotations are more meaningful
2. The sale of commodities by sample or description becomes possible
3. Small lots of commodities, produced by a large number of small producers, can be assembled into economic loads if these supplies are similar in grade or quality
4. A range of graded produce will be available out of which the buyer can choose the quality of product he/she is able and willing to purchase.

### **3.1.4 Facilitating Functions**

The facilitating functions include product standardisation, financing, risk bearing and market intelligence. Facilitating functions are those activities which enable the exchange process to take place. Facilitating functions are not a direct part of either the exchange of title or the physical movement of produce.

### **Financing**

In almost any production system there are inevitable lags between investing in the necessary raw materials such as seeds, fertilizers, feeds, agrochemicals etc and receiving the payment for the sale of produce. Investment in these factors of production requires financing, which is not easy to obtain in Nigeria. Bankers are not favourably disposed to agricultural financing because of the inherent risks and uncertainties associated with agricultural production. The business owners are left with the options of personal savings, money lenders and Cooperative Society as sources of financing crop and livestock production and other agribusiness enterprises in LDCs. The common problem of these sources of financing is limited volume of funds and high interest rates are charged by money lenders. The problem of financing is the main reason why agribusiness in Nigeria is at small scale level.

### **Risk bearing**

In both the production and marketing of produce the possibility of incurring losses is always present. Physical risks include the destruction or deterioration of the produce through fire, excessive heat or cold, pests, floods, earthquakes etc. Market risks are those of adverse changes in the value of the produce between the processes of production and consumption. A change in consumer tastes can reduce the attractiveness of the produce and is, therefore, also a risk. All of these risks are borne by organisations and individuals.

### **Market intelligence**

The process of collecting, interpreting, and disseminating information relevant to marketing decisions is known as market intelligence. Marketing decisions especially in agribusiness should be based on sound information because of the nature and risk associated with agribusiness. The role of market intelligence is to reduce the level of risk in decision making. Through market intelligence the seller finds out what the customer needs and wants. The alternative is to find out through sales, or the lack of them. Marketing research helps establish what products are right for the market, which channels of distribution are most appropriate, how best to promote products and what prices are acceptable to the market. As with other marketing functions, intelligence gathering can be carried out by the seller or another party such as a government agency, the ministry of agriculture and food, or some other specialist organisation. In Nigeria, marketing research is at low ebbs because government does not provide the finance. The limited marketing research findings do not get to the business owners due to inadequate extension workers.

## 4.0 CONCLUSION

In this unit, we have discussed marketing functions which are broadly divided into three viz physical, exchange and facilitating functions.

## 5.0 SUMMARY

The marketing functions are grouped into exchange functions which consist buying, selling and storage; physical function -transportation, processing and standardisation and the facilitating function are financing, risk bearing and marketing intelligence.

## 6.0 TUTOR-MARKED ASSIGNMENT

1. State the three classes of marketing functions.
2. Discuss the exchange function of marketing.

## 7.0 REFERENCES/FURTHER READING

- Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.
- Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.
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## **1. Marketing Management as both Science and Art**

Marketing Management is both a science as well as an art. The science of marketing management provides certain general principles which can guide the managers in their professional effort. The Art of Marketing management consists in tackling every situation in an effective manner. Science should not be over-emphasised nor should art be discounted. The science and the art of marketing management go together and are both mutually interdependent and complementary. Marketing Management is thus a science as well as an art.

## **2. Choosing Target Market**

It is impossible for a marketer to satisfy everyone in a market. Therefore, marketers start with market segmentation. They identify and profile distinct groups of buyers who might prefer or require varying products and marketing mixes. Market segments can be identified by examining demographic, psychographic, and behavioural differences among buyers. The firm then decides which segments present the greatest opportunity or those needs the firm can meet in a superior fashion.

## **3. Marketing Mix**

Marketers use numerous tools to elicit the desired responses from their target markets. These tools constitute a marketing mix. Marketing mix is the set of marketing tools that the firm uses to pursue its marketing objectives in the target market. These marketing mix are classified these tools into four broad groups known as the four Ps of marketing: Product, Price, Place, and Promotion. The 'four P's' represents a convenient way to summarise the main factors involved in any 'marketing strategy.

### **3.3 Marketing Management Cycle**

Marketing is a process that marketing managers execute. In a number of instances, a marketing manager does not manage people, but manages the marketing process. A product manager is an example of such a marketing manager; he manages the marketing process for a product within a larger marketing organisation. The results of that process in the form of products, stores, shopping malls, advertisements, promotions, prices, etc. This process is known as marketing management cycle. The marketing management cycle consists of four phases namely Planning, Implementation, Monitoring and Correction (PIMC).

## 1. **Planning**

Planning is the process of examining and understanding the surroundings within which the organisation functions. For example, “environmental scanning” is the process of studying and making sense of all the things that might impact the firm’s operation that is external to the firm. This would include studying and gaining an understanding of such things as: competition, legislation and regulation, social and cultural trends, and technology. Both present and developing trends in each of these areas must be identified and monitored. The planning stage also includes creating documents that outline the organisation’s intended response to these environmental (external) variables.

## 2. **Implementation**

The second phase in marketing management cycle is implementation. Implementation is the process of putting plans that have been made into action. It is the transition from expected reality to existing reality. Marketing events that are involved in implementation or execution of plans include advertisements, setting of prices making of sales calls etc

## 3. **Monitoring**

Monitoring is the third phase. Markets are not static entities and thus must be monitored at all times. After events execute, they need to be evaluated. Monitoring is the process of tracking plans and identifying how plans related to changes that take place during programme operations. When more information is acquired, assumptions upon which plans are based may no longer hold and thus require modifications on the basis of available information.

## 4. **Correction**

Correction is the fourth stage in marketing management cycle. It is a stage in which we take action to return our plan to the desired state based on feedback obtained in the monitoring stage. If we find that return to the planned state is not practicable, we may adjust our planning outcomes. Thus, Monitoring and Correction may be considered two stages because after plans are put into action, one must continually monitor performance and make adjustments to the plan based on the feedback gathered through these monitoring activities.

### **3.3 Roles of a Marketing Manager**

Marketing managers play many roles, and we can describe them with words that begin with the letter D:

#### **1. Detective**

The marketer is charged with understanding markets, and thus must spend considerable time learning about consumers, competitors, customers, and conditions in the markets. This learning takes many forms: formal marketing research studies, analysis of market data, market visits, and discussions with people in the markets. The results of these studies include insights about market conditions, and the identification of problems and opportunities in the various markets.

#### **2. Designer**

Once a problem or opportunity has been identified, the marketing manager turns his attention to designing marketing programmes that can solve the problems and/or capture the opportunities.

#### **3. Decision Maker:**

Marketing is a group process that involves many different people, each of whom may be designing marketing programmes and events. Thus the marketer must make decisions about which programmes to execute.

### **4.0 CONCLUSION**

In this unit, you have learnt the meaning of marketing management, marketing management cycle and the roles of marketing manager.

### **5.0 SUMMARY**

Marketing Management is the process of allocating the resources of the organisation toward marketing activities. The marketing management cycle consists of four phases namely planning, implementation, monitoring and correction. The 3Ds roles of marketing manager are Designing, Detecting and Decision making.

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

1. What is marketing management?
2. Enumerate and discuss the marketing management cycle phases.

3. What are the roles of marketing manager?

## **7.0 REFERENCES/FURTHER READING**

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.

Kohls, R.L. & Uhl, J.N. (1990). *Marketing of Agricultural Products*. (6th ed.). New York: Macmillan Publishing Company pp. 18–21.

## **UNIT 4     AGRICULTURAL FINANCING**

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  - 3.2 Economics of Capital Use
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- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

Production is incomplete until it is in the possession of final consumers. It is therefore a necessity for agribusiness managers to be acquainted with the marketing management, which involves series of activities that will facilitate the product to get to the hands of consumers. To be able to carry out these series of activities to ensure consumers get satisfaction for their money, you need financing in your agricultural business. In this unit, you be acquitted with the concept of agricultural financing and its sources

### **2.0 OBJECTIVES**

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

- define agricultural financing
- explain capital and credit.

### **3.0 MAIN CONTENT**

#### **3.1 Meaning of Agricultural Finance and Agricultural Credit**

Agricultural finance can be defined as the economic study of the acquisition and use of capital. Agricultural financing can be at national, state, local and farm levels. At national, state and local government levels, agricultural financing refers to the share of resources at each level that are devoted to agriculture as well as the roles of financial institution in financing the agricultural sector of the Nigeria economy.

Agricultural finance at the farm level refers to the acquisition and use of capital on the farm for the achievement of farm business objectives. If agricultural finance is defined as the study of acquisition and use of capital, what then is capital?

### **3.1.1 Meaning of Capital**

Capital is defined as the wealth set aside for the production of further wealth. This definition of capital underscores the perception of many people that capital is only cash or balances in current or saving accounts and other liquid savings. Capital as defined above includes money invested in crop production, machinery, livestock, lands and buildings.

### **3.1.2 Meaning of Credit**

Credit is related to the study of acquisition and use of capital. Credit is defined as ability or capacity to borrow money. This definition places credit in the possession of farmers or agribusiness entrepreneur and not with a bank or other financial institutions. Borrowing money in this wise connotes exchange of the borrower's credit for use of the lender's money with a promise of repayment of the principal with interest. The interest is the price paid for the use of another person's money.

The capital requirement of some agribusiness is enormous which the accumulated savings of the entrepreneur cannot meet; hence there is the need for capital acquisition. Credit is therefore a valuable asset because it enables individual to acquire and use borrowed money for the commencement of a business or for business expansion. The combination of equity capital and borrowed capital permits a larger business and more profit than would be possible if only equity capital is used. The use of borrowed capital to augment and extend the use of equity capital is called leverage. The degree of leverage in a business is measured by debt/equity ratio (See farm business analysis for details).

## **3.2 Economics of Capital Use**

Capital, which is defined as wealth set aside for the production of further wealth can also be viewed as the monetary representation of physical inputs in agribusiness because each wealth can be denominated to naira value. The basic question that the farmer or the business owner needs to provide answer are (1) How much capital to be used in each enterprise and (2) How should the limited capital be allocated among several enterprises.

The total amount of capital to use in a business organisation is not a problem if capital is unlimited, that is the business owner or the manager

has all the capital that can be profitably utilised or has the sufficient credit to acquire the capital from lending agencies. The criterion for efficient allocation of input is the equality of marginal input cost (MIC) and marginal value product (MVP). Marginal input cost for capital is equal to additional naira of capital plus the interest that must be paid to use it. Therefore, MIC is equal to  $1+i$ , where  $i$  is the rate of interest.

In the case of limited capital, the manager must find a way of allocating capital between alternative uses in such a manner that profit will be maximised given the limited amount available. The equi-marginal principle will be applied in such a way that marginal value products of the last naira in all the enterprises are equal.

This principle is often difficult in farm situation for the following reasons.

- (1) There may be insufficient information available to calculate the MVPs accurately.
- (2) Several alternatives uses or enterprises may require large lump sum investments of capital at once. This makes it difficult to equate the marginal value products of this kind of enterprise with the MVPs of alternatives that capital investments are in trickles.

#### **4.0 CONCLUSION**

We have discussed the meanings of agricultural finance, credit and capital. Economics of capital use was also a subject of our discussion in this unit.

#### **5.0 SUMMARY**

Agricultural finance can be defined as the economic study of the acquisition and use of capital while capital is the wealth set aside for the production of further wealth. Like any other production input, the optimum utilisation of capital is determined by the equality of marginal value product and marginal input cost.

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

1. Differentiate between capital and credit.
2. Discuss the economics of capital use in agribusiness and state the limitations of equi-marginal principles in farm situation.



## 7.0 REFERENCES/FURTHER READING

Adegeye, A.J. & Dittoh (1985). *Essential of Agricultural Economics*. Ibadan: Impact Publishers Nig Ltd, Pp 106-155.

Adesimi, A.A. (1988). *Farm Management Analysis with Perspective through the development process*.

Kohls, R.L. & Uhl, J.N. (1990). *Marketing of Agricultural Products*. (6th ed.). New York: Macmillan Publishing Company pp. 18–21.

## **UNIT 5                    AGRIBUSINESS LOANS**

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  - 3.2 Credit Rating of the Loan Applicants or Organisation
- 4.0 Conclusion
- 5.0 Summary
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### **1.0 INTRODUCTION**

The enormous financial requirements of agribusiness coupled with low income status of Nigerians often compel entrepreneurs to secure loans from financial institutions for the execution of planned project. Loans obtained are to be paid back the borrowed fund with interest on a stipulated date.

### **2.0 OBJECTIVES**

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

- explain types of loan
- classify loan based on usage
- state the criteria for loan decision making.

### **3.0 MAIN CONTENT**

#### **3.1 Loans and Types of Loans**

There are different types of agribusiness loans. Several criteria are used to classify loans. A prospective borrowers need to be familiar with terminologies used by lenders to improve communication with the lender vis –a-vis the borrower’s bargaining power. Loans can be classified on the basis of length of the loan, use of loan, security and repayment schedule.

##### **1. Length of Loan**

There are three time classifications in this category and it is the most widely used.

- (a) **Short-term Loans:** These are loans that become due for payment within 12 calendar months. It includes loans for a period of 90 days, 6 months or 1 year. Short term loans can also be called production or operating loans because they are used for recurrent expenditures, as they are used to buy inputs that are consumed during a current production cycle. Short term loans are used to purchase such as fertilizer, livestock feeds etc inputs.
- (b) **Intermediate –term Loans:** These are loans that the repayment period is more than 1 year than 7 to 10 years. These loans provide money for the purchase of machinery.
- (c) **Long-term loans:** Loans that become due for payment after 10 years are termed long-term loans. This type of loan provides money for the acquisition of fixed assets such as land.

## 2. Use of Loan

The purpose of the loan is another basis of loan classification. There are three categories in this class.

- (a) **Real Estate Loans:** These are loans that are used to acquire real estates such as land and buildings. Real estate loans are long term loans. In this kind of loan, the assets acquired with the money serve as collateral for the loan.
- (b) **Non-Real Estate Loans:** All business loans other than real estate loans are categorised as non-real estate loans. They could be short-term or intermediate-term loans. They can also be regarded as production or operating loans.
- (c) **Personal Loans:** These are loans that are not acquired for business purpose but for the acquisition of personal assets such as vehicles, buildings, electrical appliances etc.

## 3. Security

The security of a loan refers to the assets pledged to the lender to ensure loan repayment. If the borrower defaults and all efforts to ensure payment fail, the lender has the legal right to take possession of such assets or auction such assets and the proceeds are used to defray the debt. Assets which are mortgaged by borrowers to secure loans are known as collateral. There are two categories of loans under security; they are secured loans and unsecured loans.

- (a) **Secured Loans:** Secured loans that the borrower pledged or mortgaged assets (collaterals) that their values are higher than the loan value. The collateral is a deed that the lender collects to ensure payment and in case of the borrower defaults, the lender

has what he can sell to recoup both principal and accrued interest. Secured loans are long term loans.

- (b) **Unsecured Loans:** Unsecured or signature loans are loans that are acquired without collateral. It is called a signature loan because the signature of the borrower is the only security provided. Good customers of financial institution with a proven record of prompt payment are the ones that can obtain unsecured loans.

#### 4. Repayment

Repayment schedule or plan is another system of loan classification. Repayments are scheduled according to the borrower's ability to pay. Loans can be classified as single payment or amortised loan under the repayment schedule system.

- (a) **Single Payment:** This type of loan requires that the payment of both the principal and accrued interest be made as lump sum when the loan becomes due. Short-term loan and some intermediate term loans are single payment loans.
- (b) **Amortised Loan:** These are loans that have periodic payment of the principal and interest. Loans that are paid installmentally on monthly basis is an example of amortised loan. There are two types of amortised loan, the equal principal payment and the equal total payment.

### 3.4 Credit Rating of the Loan Applicants or Organisation

You will recall that we defined credit as the ability to borrow money. Therefore, the lenders have certain criteria or condition that must be satisfied by the applicant and or organisation, which form the basis for approval or disapproval of the application. It is on the extent to which the conditions are satisfied that determines the volume of loan that will be approved.

The criteria for loan decision making are:

1. Character
2. Capacity
3. Collateral
4. Management ability
5. Financial position of the firm
6. Purpose of the loan

The use of these factors is necessitated by the fact that the lenders are in business with the aim of maximising profits, hence the need to ensure the repayment of borrowed money. The first three are referred to as 3Cs of credit. The criteria are discussed one after the other below:

**Character:** The personal characteristics of the loan applicants are considered by lenders. Contact will be made with the referees of the applicant to ascertain the honesty, integrity and reputation of the applicant. This enables the operators of financial institutions to establish the credit worthiness of the prospective borrowers.

**Capacity:** This refers to the repayment capacity of the business because the prospective borrower will definitely default if the business enterprise in which the loan is invested is unprofitable. The business must generate income that would be sufficient to settle family expenses, income tax payments as well as the principal and the accrued interest on the amount borrowed generated. Lenders can authenticate the repayment capacity of the firm by considering the cash flow generated by the business or projected cash flow for two or more years. In addition, balance sheet analysis and farm ratios are tools in the hand of the lenders to establish the financial strength of the organisation.

- (a) **Collateral:** Collateral is an asset pledged or mortgaged by the borrowers to secure loans. The volume of loan is a major determinant of the type of collaterals lenders will demand. Land, buildings, vehicles and other valuable assets are used as collaterals. Demand for collaterals is borne out of the need for security and what the lenders can fall upon in case the borrower defaults intentionally or unintentionally due to business failure.
- (b) **Management ability:** In addition to 3Cs of credit, one of the additional criteria for decision making in granting loan is management ability of the managers or the farmers. This is necessary as it helps the lenders to establish the applicant's judgement and ability in decision making. In case the farm is a new one without a past record, the educational status and areas of specialisation because they are shifter variables of the production function, hence they are good indicators of efficiency and productivity of an applicant business enterprise.
- (c) **Financial Status of the firm:** In determining the capacity of the business to generate enough funds for loan repayment, the financial position or strength of the farm should be ascertained by the lenders. Lenders can learn much about this by considering both the profit and loss statement and balance sheet

of the farm. Liquidity, solvency and profitability ratios from balance sheet and income statement can be used to further establish the financial status of the farm.

- (d) **Purpose of the Loan:** The purposes of applying for loans should be known by both the borrowers and the lenders. This is necessary because of many alternative agribusiness enterprises that on which the money could be invested. The lender, based on experience is in a good position to offer advice with respect to perceived profitability of various agribusiness enterprises; since the most profitable business will enhance the repayment capacity of the borrower.

#### 4.0 CONCLUSION

In this study unit, you have learnt about agribusiness loans, classification of loans and criteria for rating loan applications and applicants.

#### 5.0 SUMMARY

Entrepreneurs often use loans to augment their personal savings while starting business or when there is the need for expansion. Loans are classified on the basis of duration for repayment, uses, mode of repayment and security. Applications from prospective borrowers are rated on certain criteria which include character of the applicants, capacity of the investment to repay both principal and interest as well collateral among others.

#### 6.0 TUTOR -MARKED ASSIGNMENT

1. Define loans and discuss types of loans on the basis of uses, security and repayment.
2. Congratulations, you have just been appointed as the credit analyst of NOUN Microfinance Bank, state and discuss the criteria upon which you will base your decision on approval or disapproval of a loan application of Joy agro-allied firm.

#### 7.0 REFERENCE/FURTHER READING

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## UNIT 6 TIME VALUE OF MONEY (TVM)

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Time Value of Money
  - 3.2 Interest
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### 1.0 INTRODUCTION

Time Value of Money (TVM) is an important concept in financial management. It can be used to compare investment alternatives and to solve problems involving loans, mortgages, leases, savings, and annuities. TVM is based on the concept that a naira that you have today is worth more than the promise or expectation that you will receive a naira in the future. Money that you hold today is worth more because you can invest it and earn interest. The time element is important in your decision with respect to money because time allows you the opportunity to postpone current consumption and earn interest.

### 2.0 OBJECTIVES

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

- define or explain the meaning of time value of money
- describe the relationship between present and future value
- describe how the interest rate can be used to adjust the value of cash flows – both forward and backward – to a single point in time
- calculate both the future and present value of: (a) an amount invested today; (b) a stream of equal cash flows (an annuity); and (c) a stream of mixed cash flows.

## 3.0 MAIN CONTENT

### 3.1 Meaning of Time Value of Money

The time value of money is the value of money reflecting a given amount of interest earned or inflation accrued over a given amount of time. The ultimate principle suggests that a certain amount of money today has different purchasing power than the same amount of money in the future. The difference exists both because there is an opportunity to earn interest on the money and due to the effect of inflation which drive prices up, thus changing the "value" of the money. For example, ₦100 of today's money invested for one year and earning 5% interest will be worth \$105 after one year. Therefore, ₦100 paid now or ₦105 paid exactly one year from now both have the same value to the recipient who assumes 5% interest; using time value of money terminology, \$100 invested for one year at 5% interest has a *future value* of \$105.

### 3.2 Interest

Interest is the cost of borrowing money. An interest rate is the cost stated as a percent of the amount borrowed per period of time, usually one year. The prevailing market rate is composed of:

1. The **Real Rate of Interest** that compensates lenders for postponing their own spending during the term of the loan.
2. An **Inflation Premium** to offset the possibility that inflation (general rise in the prices of goods and services) will reduce the value of the money during the term of the loan. Due to inflation a particular amount of money will purchase progressively fewer goods and services during a period of inflation, so the lender must increase the interest rate to compensate for that loss.
3. Various **Risk Premiums** to compensate the lender for risky loans such as those that are unsecured made to borrowers with questionable credit ratings, or illiquid loans that the lender may not be able to readily resell.

The first two components of the interest rate listed above, the real rate of interest and an inflation premium, collectively are referred to as the **nominal risk-free rate**. The nominal risk-free rate in some countries can be approximated by the rate of Treasury bills since they are generally considered to have a very small risk.



### 3.2.1 Types of Interest

The interest rate and types of interest adopted will determine the time value of a given amount of money. Type of interests often use are:

1. Simple Interest
2. Compound Interest
3. Amortising a loan
4. Compounding More than Once Per Year

#### 3.2.1.1 Simple Interest

Simple interest is computed only on the original amount or principal borrowed or lent. It is the return on that principal for one time period. The Simple interest formula is given as:

$$\text{S.I.} = P_0 (i) (n) \text{ or } p * i * n$$

SI: Simple Interest  
 P<sub>0</sub>: Principal  
 i: Interest Rate per Period  
 n: Number of Time Periods

Example 1: Suppose you borrow ₦10,000 for 3 years at 5% simple annual interest. Calculate the interest that will accrue.

$$\text{Interest} = p * i * n = 10,000 * .05 * 3 = \text{₦}1,500$$

Example 2: If you borrow the same amount ₦10,000 for 60 days at 5% at simple interest per year. (Assume a 365 day year).

$$\text{Interest} = p * i * n = 10,000 * .05 * (60/365) = \text{₦}82.1917$$

Having obtained the accrued interest, the future value of the ₦10,000 can be calculated. **Future Value** is the value of a present amount of money or a series of payments evaluated at a given interest rate at some future time.

What is the future value (FV) of the amount borrowed?

$$\begin{aligned} \text{FV} &= \text{Principal} + \text{Interest} \\ \text{FV} &= P_0 + \text{SI} \end{aligned}$$

The future value for Example 1:

$$\text{FV} = \text{₦}10,000 + \text{₦}1500$$

$$= \text{₦}11,500.00$$

The future value for Example 2:

$$\begin{aligned} \text{FV} &= \text{₦}10,000 + \text{₦}82.1917 \\ &= \text{₦}10,082.19 \end{aligned}$$

What is the present value of the previous problem?

The present value (PV) is simply the ₦10,000.00 borrowed.

**Present value** is the current value of a future amount of money evaluated at a given interest rate.

### 3.1.1.2 Compound Interest and Time Value of Money

Compound interest is calculated each period on the original amount borrowed plus all unpaid interest accumulated to date. Compound interest is always assumed in TVM problems. Although the interest may be stated as a yearly rate, the compounding periods can be yearly, semiannually, quarterly, or even continuously.

Compound interest can be viewed as a series of back-to-back simple interest contracts. The interest earned in each period is added to the principal of the previous period to become the principal for the next period. For example, you borrow ₦10,000 for three years at 5% annual interest compounded annually:

$$\begin{aligned} \text{Interest year 1} &= p * i * n = 10,000 * .05 * 1 = \text{₦}500 \\ \text{interest year 2} &= (p_2 = p_1 + i_1) * i * n = (10,000 + 500) * .05 * 1 = \text{₦}525 \\ \text{interest year 3} &= (p_3 = p_2 + i_2) * i * n = (10,500 + 525) * .05 * 1 = \\ &\text{₦}551.25 \end{aligned}$$

$$\text{Total interest earned over the three years} = 500 + 525 + 551.25 =$$

**₦1,576.25.** Compare this to ₦1,500 earned over the same number of years using simple interest.

$$\text{Future Value} = P_0 + \text{CI}$$

$$\begin{aligned} &= \text{₦}10,000 + \text{₦}1,576.25 \\ &= \text{₦}11,576.25 \end{aligned}$$

Notice that the ₦10,000 debt increases by the factor  $(1 + .05) = 1.05$  in the first year. In general, for any interest rate  $r$ , the value of the loan at the end of 1 year is  $(1 + r)$  times the initial volume of loan:

Value after 1 year = initial investment  $\times (1 + r)$   
 $= \text{₦}10,000 \times (1.05) = \text{₦}10,500$  (Interest is  $\text{₦}500$  as shown above)  
 In the second year the volume of loan (principal plus Interest) =  
 $\text{₦}10,500$

Value of the loan after 2 years =  $\text{₦}10,500 \times (1.05) = \text{₦}11,025$   
 This implies that **Future Value** of loan after 2 years =  $\text{₦}10,000 \times (1.05)^2 = \text{₦}11,025$

Value of the loan after 3 years =  $\text{₦}11,025 \times (1.05) = \text{₦}11,576.25$   
 Similarly **Future Value** of loan after 3 years =  $\text{₦}10,000 \times (1.05)^3 = \text{₦}11,576.25$

This clearly shows that loan value or investment horizon of  $t$  years, the original  $\text{₦}10,000$  loan will increase to  $\text{₦}10,000 \times (1.05)^t$   
 The future value of an investment or loan an interest rate of  $r$  and a horizon of  $t$  years, the **future value** of your investment **at compound interest is given as:**

**Future value** = Initial investment  $\times (1 + r)^t$   
 Future Value = Principal  $\times (1 + r)^t$  (for loan)

Future value is calculated by multiplying the present investment by 1 plus the interest rate. To calculate present value, we simply reverse the process and divide the future value by the interest rate:

$$PV = \frac{FV}{(1+i)^n} = FV * \left(\frac{1}{(1+i)^n}\right)$$

The cumulative present value of future cash flows can be calculated by summing the contributions of  $FV_t$ , the value of cash flow at time  $t$

$$PV = \sum_{t=0}^n \frac{FV_t}{(1+i)^t}$$

Note that this series can be summed for a given value of  $n$ , or when  $n$  is  $\infty$ .

What is the present value of  $\text{₦}11,576.25$  to be received in three years time at the rate of 5% per annum?

$$PV = \frac{FV}{(1+i)^n} = FV * \left(\frac{1}{(1+i)^n}\right) = \frac{11,576.25}{(1.05)^3} = \text{₦}10,000$$

The expression in the formula  $1/(1+r)^t$  is called the discount factor. It measures the present value of ₦1 received in year t. These factors for different interest rates and time are calculated and displayed in the present value tables. If you are using the present value table, the formula can be changed as:

$$PV = FV * PVF_{\%,n}$$

$PVF_{\%,n}$  is the value of present value tables for given interest rate and time. An extract of present value table is presented in Table 1.

**Table 1: Present value of ₦1**

Number of Years	Interest Rate Per Year					
	5%	6%	7%	8%	9%	10%
1	0.952	0.943	0.935	0.926	0.917	0.909
2	0.907	0.890	0.873	0.857	0.842	0.826
3	0.864	0.840	0.816	0.794	0.772	0.751
4	0.823	0.792	0.763	0.735	0.708	0.683
5	0.784	0.747	0.713	0.681	0.650	0.621
10	0.614	0.558	0.508	0.463	0.422	0.386
20	0.377	0.312	0.258	0.215	0.178	0.149
30	0.231	0.174	0.131	0.099	0.075	0.057

Use the Present value table and calculate the present value of ₦11,576.25 to be received in 3 years at the rate of 5% per annum.

$$PV = FV * PVF_{\%,n}$$

$$\text{Future value} = \text{₦}11,576.25$$

$$\text{Discount factor @5\% in year 3} = 0.864$$

$$PV = \text{₦}11,576.25 \times 0.864 = \text{₦}10,001.88$$

### 3.1.1.3 Rate of Return

If you know the present value, future value (amount to which the investment will grow), and periods of investment, we can calculate the rate of return with this formula:

$$i = (FV / PV)^{(1/n)} - 1$$

*Example: Suppose the future value of ₦129 to be earned at the end of 25th year is, ₦1000 what is the interest rate?*

$$\begin{aligned}
 FV &= \text{N}129 \times (1+r)^{25} \\
 \text{N}1,000 &= \text{N}129 \times (1+r)^{25} \\
 (1+r)^{25} &= \text{N}1,000/129 = 7.75 \\
 (1+r) &= (7.75)^{1/25} = 1.0853 \\
 r &= 1.0853 - 1.0853 \\
 &= 0.85 = 8.53\%
 \end{aligned}$$

### 3.2 ANNUITY

The term annuity refers to any terminating stream of fixed payments over a specified period of time. Examples of annuities are regular deposits to a savings account, monthly home mortgage payments and monthly insurance payments.

#### PRESENT VALUE OF ANNUITY

**Present value of  $t$ -year annuity = payment \* annuity factor**

$$PVA = A * \left[ \frac{(1+i)^n - 1}{(1+i)^n * i} \right]$$

1. PV(A) is the value of the annuity at time=0
2. A is the value of the individual payments in each compounding period
3. i equals the interest rate that would be compounded for each period of time
4. n is the number of payment periods.
5.  $\left[ \frac{(1+i)^n - 1}{(1+i)^n * i} \right]$  is annuity factor and can be found in present value tables for any given interest rate and time combination.

**Example:** Suppose a farmer obtained N1,000,000 loan from bank for 12 months at monthly interest rate of 2%, what will be the monthly equal payments?

$$\begin{aligned}
 PVA &= APVFA\%, n \\
 \text{N}10,000 &= A * 10,575 \\
 A &= \frac{\text{N}1,000,000}{10,575}
 \end{aligned}$$

$$A = \text{N}94.56$$

### 4.0 CONCLUSION

In this unit, we have considered the time value of money-the present value, future value and different methods of calculating the interest that

will accrue on a particular amount of money borrowed at a particular interest rate for a period of time.

## **5.0 SUMMARY**

Time value of money reflects a given amount of interest earned or inflation accrued over a given amount of time. The interest accrued depends on whether simple interest or compound interest is used to calculate the accrued interest. Time value of money helps the entrepreneur to know the opportunity cost of investing a particular amount of money for a period of time.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. What is time value of money and why is it important in financial management?
2. Suppose groundnut oil producing firm needs 300,000 at the end of 2 years to buy a new computer. The interest rate is 8 percent per year. How much money should you set aside now in order to pay for the purchase?

## **7.0 REFERENCES/FURTHER READING**

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## **MODULE 6      ECONOMICS OF AGRICULTURAL PROCESSING**

- Unit 1      Meaning and Importance of Agricultural Processing  
 Unit 2      Types and Problems of Agricultural Processing in less Developed Countries

### **UNIT 1      MEANING AND IMPORTANCE OF AGRICULTURAL PROCESSING**

#### **CONTENTS**

- 1.0    Introduction
- 2.0    Objectives
- 3.0    Main Content
  - 3.1    Meaning and Importance of Agricultural Processing
    - 3.1.1    Value added and Value Added Agriculture
  - 3.2    Importance of Agricultural Processing
- 4.0    Conclusion
- 5.0    Summary
- 6.0    Tutor-Marked Assignment
- 7.0    Reference/Further Reading

#### **1.0    INTRODUCTION**

Agricultural products (crops and livestock) in most less developed countries are sold as primary products both locally and internationally, therefore it commands low prices and thus farmers are impoverished due to low income realised from farm business enterprise. These primary products such as cocoa, kolanut, maize etc are processed by our foreign business partners into secondary products like beverages, coffee, baby foods etc which are sold to us at very exorbitant prices thereby making such essential products unaffordable to low income earners. Agricultural processing add value to raw products, generates more income and also a means of job creation. The subsector of manufacturing industry that process raw materials and intermediate products from agricultural sector is known as agroprocessing or agricultural processing industry. Agroprocessing industry thus means transforming products originating from agriculture, forestry and fisheries.

## **2.0 OBJECTIVES**

At the end of this unit, you will be able to:

- define agricultural processing
- mention and explain the contributions of agricultural processing to economic development of less developed countries
- identify the problems of agricultural processing in Nigeria and other LDCs.

## **3.0 MAIN CONTENT**

### **3.1 Meaning and Importance of Agricultural Processing**

Agricultural processing is defined as the horizontal set of activities engaged exclusively in the production of processed products from the processing of agricultural raw materials. Agricultural processing refers to the process of transforming or changing agricultural products from its original state to a more valuable state. Many of the raw agricultural products have intrinsic value in their original state. Agricultural processing has led to a form of agriculture termed value added agriculture. The value of a changed product is added value, such as processing wheat into flour, cassava tubers into cassava flakes (Gari), cocoa to beverages. The application of biotechnology, the engineering of food from raw products to the consumers and the restructuring of the distribution systems from the producers to consumers provides opportunities to add value.

#### **3.1.1 Value Added and Value Added Agriculture**

Broad definition of value added is to economically add value to a product by changing its current place, time and from one set of characteristics to other characteristics that are more preferred in the market place. A narrow definition of value added is to economically add value to an agricultural product (such as wheat) by processing it into a product (such as flour) which is in turn processed into bread. Producers involved in adding value should think of themselves as members of a food company that processes and markets product to consumers. Often, this involves building processing plants, which however must be built in locations where the business can thrive and profitable.

### **3.2 Importance of Agricultural Processing**



Agricultural processing sector is a veritable sector for the growth and development of the economies of LDCs. Some of the contributions are:

1. It increases the gross domestic product (GDP) through the provision of additional goods and new processed products in the country.
2. It provides ( or increases the) income for the processors or of the farmers if he is involved in the processing activities.
3. It generates employment to teeming population of LDCs. Agricultural processing industries that provide employment in Nigeria are breweries, feed mill, textiles, soft drink manufacturers, bakeries etc.
4. It can bridge the income gap that exists between the ruralites and urban dwellers because of their strong backward linkage to primary agriculture.
5. Due to reduction in gap in rural and urban income, rural-urban migration will be minimised.
6. It will creates a source of exports and thereby bring an end to monoculture economy of Nigeria due to sole dependence of the economy on oil.
7. It increased the net-export of the Nigeria and other LDCs because of increase in the prices of exports.
8. It provides training to unskilled new employees, as well as fringe benefits, thus upgrading the level of education and living standards prevailing in underdeveloped areas.
9. Agricultural processing stimulates agricultural production by creating new stable intermediate markets for raw agricultural products and assisting producers in improving their farming know-how in some processing activities through vertical integration and production contracts with processors.
10. The processing industries have strong relationship with other important sectors of the economy, like the grocery and wholesale sectors, that create thousands of jobs, as well as with the service sector and the growing tourist industry, that bring about a vigorous expanding demand for food processed products.

#### **4.0 CONCLUSION**

In this unit, you have learnt the meaning of agricultural processing, value added agriculture and the importance of agricultural processing in less developed countries.

#### **5.0 SUMMARY**

Agricultural processing refers to the process of transforming or changing agricultural products from its original state to a more valuable

state. Agricultural processing has led to a form of agriculture termed value added agriculture. Value added is to economically add value to a product by changing its current place, time and from one set of characteristics to other characteristics that are more preferred in the marketplace. Some of the importance of agricultural processing increases farmer's income, increase in GDP and employment generation.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. What is agricultural processing?
2. The contribution of agriculture is continuously declining in less developed countries. In what ways can process of agricultural products reverse the current trend?

## **7.0 REFERENCE/FURTHER READING**

ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation*.

## **UNIT 2    TYPES AND PROBLEMS OF AGRICULTURAL PROCESSING IN LESS DEVELOPED COUNTRIES**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Types of Agricultural Processing Industry
  - 3.2 Problems of Agricultural Processing in Developing Countries
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/Further Reading

### **1.0 INTRODUCTION**

A common and traditional definition of agroprocessing industry refers to the subset of manufacturing that processes raw materials and intermediate products derived from the agricultural sector. Agroprocessing industry refers to the subsector of manufacturing industry that specialises in the transforming or processing raw materials from agricultural sector. The industries that use agricultural, fishery and forest products as raw materials comprise a very varied group. They range from simple preservation (such as sun drying) and operations closely related to harvesting to the production, by modern, capital-intensive methods, of such articles as textiles, pulp and paper.

### **2.0 OBJECTIVES**

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

- mention and discuss the different types of agricultural processing industry
- list and discuss the problems of agroproceeing industry in less developed countries.

### 3.0 MAIN CONTENT

#### 3.1 Types of Agricultural Processing Industry

The classification of agricultural processing can be based on methods of processing, kinds of industries (food or non food), downstream and upstream.

**(a) Simple Agricultural Processing**

This involves simple preservations such as sun-drying, oven-drying, the use of refrigerator to preserve agricultural products. This simple method of processing are meant for preservation of fish, meat vegetables for a short period of time.

**(b) Food Industries**

These are agro processing industries that transform foodstuffs into processed products. The preservation techniques adopted in processing perishable food products such as vegetables, meat, fish or milk is similar. The major purpose of processing the perishable food products is preservation.

**(c) Non-food Industries**

Non-food industries, in contrast to the food industries, have a wide variety of end uses. Almost all non-food agricultural products require a high degree of processing. Most of these products are first transformed into intermediate products which will in turn be transformed into the final products. Because of the value added at each of these successive stages of processing, the proportion of the total cost represented by the original raw material diminishes steadily. A further feature of the non-food industries is that many of them now increasingly use synthetics and other artificial substitutes (especially fibres) in combination with natural raw materials.

Another useful classification of agro-processing industry is in upstream and downstream industries.

- (i) Upstream industries are engaged in the initial processing of agricultural commodities. Examples are rice and flour milling, leather tanning, cotton ginning, oil pressing, saw milling and fish canning.
- (ii) Downstream industries undertake further manufacturing operations on intermediate products made from agricultural materials. Examples are bread, biscuit and noodle making, textile spinning and weaving; paper production; clothing and footwear manufacturing; and rubber manufactures.

### **3.2 Problems of Agricultural Processing in Developing Countries**

#### **(a) Availability of Raw Materials**

The agro-processing industries depend on the downstream sector-the agricultural sector for raw materials. The raw materials are not always available due to small-scale nature of farming in LDCs and due to the nature of agricultural production and products. Non- availability of the raw materials throughout the year sets limit on the size of processing plants; this explains the reasons for underutilisation of plants capacity. In addition, the qualities of the raw materials differ from one another, a problem that has a direct effect on the quality of the processed products.

#### **(b) Cost of Machineries**

The agricultural processing requires large scale of production which will enable the agro-processing industry to enjoy the economies of scale. The large scale of production requires the importation of machineries, which are very expensive due to high tariffs and the naira exchange rate. The quality of locally produced capital goods, which are protected by high tariffs and other import restrictions, is often inadequate to meet investors' requirements.

#### **(c) Transportation**

In Nigeria and most other LDCs, transportation costs are high due to poor road networks and scarcity of modern transport modes, such as refrigerated vehicles that are required to transport perishable agricultural commodities. For instance, in Nigeria, trucks are used to convey agricultural raw materials from the north to the south and vice versa, which not only delay the arrival of the raw materials at the agro-processing plants, it also increases losses due to high rate of truck accidents on the roads.

#### **(d) Storage Facility for Raw Materials**

In Nigeria, the storage facility is another factor that limits the expansion of agricultural processing industries. Storage facility is either not available or when available, it is inadequate for perishable agricultural commodities. Most food stuffs such as tomatoes, potatoes, vegetables water melon etc need adequate storage facility to keep down their moisture content to increase their shelf life.

### **(e) Power Supply**

The power sources for all industries, agro-processing industry inclusive are Power Holding Nigeria PLC and the use of generators, which are either powered by petrol or diesel. Power supply in Nigeria is highly erratic and unreliable, thereby making production epileptic. To surmount this problem several manufacturing industries have resorted to the use of generator but the high cost of diesel leads to increase in the average total cost of production (production per unit) which in turn reduced the profitability of the industry.

### **(f) Credit Facility**

Agro-processing on large scale is capital intensive which will require credit acquisition from financial institutions. Credit in Nigeria and other LDCs are not readily available and when available the cost of acquisition is so high that it eats up the profit leaving little or nothing for the agribusiness owners after the principal and interest are paid. Besides this, is the bureaucracy or red tapism associated with the credit acquisition. This constraint does not allow the loan, when eventually approved, be available at the time that is needed.

## **4.0 CONCLUSION**

In this study unit, you have learnt about the types of agricultural processing and the problems associated with agricultural processing in less developed countries.

## **5.0 SUMMARY**

Broadly speaking, agricultural processing can be classified into food industries and non-food industries. Other classifications are upstream and downstream industries. Agricultural processing in developing countries is limited by problems like credit facility, power supply, and transportation and so on.

## **6.0 TUTOR-MARKED ASSIGNMENT**

1. Name the classes of agricultural processing industries.
2. State and discuss the problems of agricultural processing in less developed countries.

## **7.0 REFERENCE/FURTHER READING**

David Colander, H.O. (2008). *Economics* 7/e ISBN 0073402869  
London: McGraw-Hill.

## **MODULE 7      ECONOMIES OF SIZE IN AGRIBUSINESS**

Unit 1	Theory of Cost
Unit 2	Shapes of short-run and Long-run Cost Curves
Unit 3	Economies of size in Agribusiness

### **UNIT 1      THEORY OF COST**

#### **CONTENTS**

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	Meaning of Total Cost and Its Components
3.2	Total fixed Cost (TFC) and Total variable Cost (TVC)
3.3	Average Total Cost, Average Fixed Cost and Average Variable Cost
3.3.1	Average Total Cost
3.3.2	Average Fixed Cost (AFC)
3.4	Marginal Cost
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
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#### **1.0      INTRODUCTION**

The size of agribusiness enterprise will determine its value addition as well as the profitability of the business. The profit that will accrue from a business activity is a function of quantity produced and it is the difference between total revenue (TR) and total cost (TC). Total cost has two components, the total fixed cost and total variable cost. An increase in total cost without a corresponding increased in accrued revenue implies a decrease in profit from an enterprise.

#### **2.0      OBJECTIVES**

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

- define total cost and its components
- define and graph average variable cost, average total cost and marginal cost
- differentiate between short-run and long-run.



### 3.0 MAIN CONTENT

#### 3.1 Meaning of Total Cost and Its Components

The cost of production refers to expenditures on inputs or resources employed in a production process. In other words, the sum total of rent, wages and interest on borrowed funds constitute the total cost of production. The total cost of production has two components namely, the total fixed cost and total variable cost.

#### 3.2 Total Fixed Cost (TFC) and Total Variable Cost (TVC)

Total Fixed cost refers to costs of fixed inputs (Resources that the utilisation does not vary with the level of output) or costs that are independent of output. Examples are costs machinery, building etc.

Total variable costs are costs that incurred on the employment of variable factors of production whose amount cannot be altered in the short run. The costs include wages, cost of raw materials, fuel, cost of transportation and the like. Variable costs are also called prime cost or direct costs. Total cost of production is the sum total of variable costs and fixed costs. Hence:

$$TC = TFC + TVC$$

#### 3.3 Average Total Cost, Average Fixed Cost and Average Variable Cost

Total cost, fixed cost and variable cost are important, but much of a firm's discussion is of average cost. So we shall focus on the differences between total cost and average cost. To obtain the firm's average cost, we simply divide the total amount of whatever cost we are talking about by the quantity of product produced. For example:

##### 3.3.1 Average Total Cost

(ATC) is defined as total cost per unit output. It equals total cost divided by the total output. Thus:

$$ATC = \frac{TC}{Q}$$

##### 3.3.2 Average Fixed Cost (AFC)

is defined as fixed cost per unit output. Average fixed cost equals total fixed cost divided by quantity of output produced:

$$AFC = \frac{TFC}{Q}$$

Average Variable Cost (AVC) refers to variable cost per unit output. Average variable cost is obtained by dividing total variable cost by total output:

$$AVC = TVC/Q$$

The most important average cost concept, average total cost can be viewed as the sum of average fixed cost and average variable cost:

$$ATC = AFC + AVC$$

### **3.4 Marginal Cost**

is the increase (or decrease) in total cost from increasing (or decreasing) the level of output by one unit. The marginal cost is the addition made to total cost by production of additional unit of output. It is expressed as:

$$MC = TC_n - TC_{n-1}$$

Marginal cost is independent of output. As marginal product of output rises, reaches maximum and then declines, thus the marginal cost first declines, reaches minimum and then rise. Marginal cost curve is U shaped

### **4.0 CONCLUSION**

In this study unit, you have been reminded of basic theory of cost. We have defined total cost and its components. The relationships between the cost components were also considered.

### **5.0 SUMMARY**

The cost of production refers to expenditures on inputs or resources employed in a production process. The cost of production consists of total variable cost and total fixed cost. Average costs are the costs per unit input.

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

Define the following cost components:

- (i) Total variable cost
- (ii) Total fixed cost
- (iii) Marginal cost
- (iv) Average variable cost

(v) Average total cost

2. Copy and complete the table below:

Total Output	TFC	TVC	TC	AFC	AVC	ATC	MC
0	400	0	-	400	0	400	0
1	400	400	-	-	400	-	-
2	400	500	-	-	-	-	-
3	400	550	-	-	-	316.66	-
4	400	600	-	-	-	-	-
5	400	700	-	-	-	-	-

## 7.0 REFERENCES/FURTHER READING

Ahuja, H .L. (2012). *Principles of Microeconomics* ISBN 81-219-0335-1  
S. New Delhi, India: Chand and Company Limited.

David Colander, H.O. (2008). *Economics* 7/e ISBN  
0073402869 London: McGraw-Hill.

Hill Berkely (1990). *An Introduction to Economics for Students of Agriculture* 2/e ISBN 0-08-037497-2 London: ergamon Press Plc Headington Hill Hall Oxford, OX3OBW.

## **UNIT 2      SHAPES OF SHORT- RUN AND LONG-RUN AVERAGE COST CURVES**

### **CONTENTS**

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 The U Shape of the Short- Run Average and Marginal Curves
  - 3.2 Determinants of the Shape of Long-Run Cost Curve
  - 3.3 Economies of Scale
  - 3.4 Diseconomies of Scale
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### **1.0 INTRODUCTION**

The shape of cost curves has implication on the productivity and profitability of the farm. The level of production vis-à-vis the corresponding cost is a significant indicator of cost minimisation or otherwise. If the cost is increasing with increase in production, the farm is experiencing decreasing return to scale. If otherwise, it is increasing return to scale.

### **2.0 OBJECTIVES**

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

- describe the shape of short-run cost curves
- draw the cost curves
- explain the meaning of economies and diseconomies of scale
- state the importance of economies of scale in agribusiness.

### **3.0 MAIN CONTENT**

#### **3.1 The U Shape of the Short- Run Average and Marginal Curves**

In the short-run, output can only be increased by increasing the variable input. As more and more of variable inputs are added to a fixed input; the law of diminishing marginal productivity sets in and the marginal

productivity and average productivity fall. The key insight here is that marginal and average products are the mirror images of marginal cost and average cost respectively. This implies that when marginal and productivities falls, marginal costs and average cost must rise. It therefore follows that if law of variable proportion holds, then the marginal and average cost curves must be upward sloping, that is U-shaped. The U-shape of the cost curves indicates that the marginal cost and average costs are falls initially, reached a minimum level; production beyond this lowest per unit cost leads to increase in the marginal and average costs. This is shown in the rising (right) portion of the cost curves.

### **3.2 Determinants of the Shape of Long-Run Cost Curve**

Firms have many more options in the long-run than they do in the short-run. Unlike in the short-run, firms can change inputs they want, plant is not given and several technologies are available from which they can choose. In making the long-run decisions, firms look at the costs of the various inputs and the technologies available for combining those inputs and then select the combination that offers the lowest cost.

In our previous discussion, we have seen that the law of diminishing marginal productivity accounted for the U-shape of the short-run average cost curves. The law of diminishing marginal productivity does not apply to the long-run because in the long-run all inputs are variable. The most important determinants of what is economically efficient in the long-run are economies and diseconomies of scale.

### **3.3 Economies of Scale**

Economies of scale exist in production when long-run average total costs decrease as output increases. For example, if production of 40,000 tons of flour costs the farm ₦16,000,000, but producing 200,000 tons of flour costs the farm ₦40,000,000. There are significant economies of scale associated with choosing to produce 200,000 rather than 40,000 tons of maize because in the former case, a ton costs ₦200million while in the latter a ton of flour costs ₦40million.

In real-world production processes, at low levels of production, economies of scale are extremely important because many production techniques require a certain minimum level output to be useful. For example, say you want to set up a poultry farm to raise layers; there is the need for construction of poultry houses and to purchase cages. The costs of these inputs are indivisible setup cost (the cost of an indivisible input for which a minimum amount of production before the input

becomes economically feasible to use). As output increases, the costs per unit output decreases. A typical long-run average total cost curve is shown in figure 1. Economies of scale account for the downward sloping part of the curve.

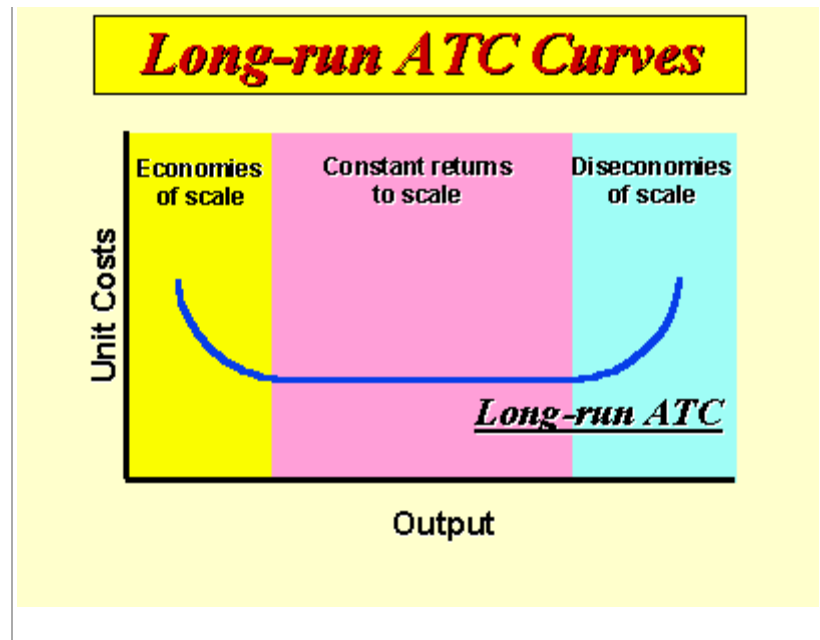
The importance of economies of scale makes entrepreneurs talk of a minimum efficient level of production. A minimum efficient level of production is the amount of production that spreads setup costs out sufficiently for a firm to undertake production profitably. The minimum efficient level of production is where the average total costs are at a minimum. Economies of scale underlie firms' attempts to expand their markets. If they can make and sell more at lower per unit costs, they will earn more profits.

### **3.4 Diseconomies of Scale**

Diseconomies of scale in production exist when long-run average total cost increases as output increases. Diseconomies of scale could not occur if production relationships were only technical relationships. If that were the case, the same technical process could be used over and over again at the same cost. In reality, however, production relationships have social dimension, which introduce two major potential causes of diseconomies of scale. The first is the monitoring costs; as the size of firms increases, monitoring costs generally increase. Monitoring costs are the costs incurred by the organiser of production in seeing to it that the employees do what they are supposed to do. Monitoring costs are the costs of supervision. The cost of monitoring increases significantly with increase in size of the firm vis-à-vis the output and it is a major contributor to diseconomies of scale.

The second social dimension that contributes to diseconomies of scale is the loss of team spirit (the feelings of friendship and being part of a team that bring out people's best efforts). As the firm increase in size, team spirit or morale generally decreases. The larger a firm is the more difficult to maintain team spirit and when the team spirit is lost, production reduces considerably.

Diseconomies of scale is a factor that prevents firms' expansion and it can lead to sales of the firms and buyers of the firm to break it up in the hope that the smaller production units will be more efficient and thereby eliminate some of the diseconomies of scale.



#### 4.0 CONCLUSION

In this unit, we have considered the theory of cost, determinants of short-run and long-run cost curves' shapes and the economies of scale and diseconomies of scale.

#### 5.0 SUMMARY

The shape of cost curves in the short-run is determined by the law of diminishing marginal returns while an economy of scale is the determinant of cost curve shape in the long-run.

#### 6.0 TUTOR-MARKED ASSIGNMENT

1. Discuss the determinants of shapes of the cost curves in the short run and the long-run
2. What are economies of scale and its importance in production activities?

#### 7.0 REFERENCES/FURTHER READING

Ahuja, H. L. (2012). *Principles of Microeconomics* ISBN 81-219-0335-1  
S. New Delhi, India: Chand and Company Limited.

David Colander, H.O. (2008). *Economics* 7/e ISBN 0073402869  
London: McGraw-Hill.

Hill Berkely (1990). *An Introduction to Economics for Students of Agriculture* 2/e ISBN 0-08-037497-2 England: Pergamon Press Plc Headington Hill Hall Oxford, OX3OBW.



## UNIT 3 ECONOMIES OF SIZE IN AGRIBUSINESS

### CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
  - 3.1 Meaning of Economies of Size
  - 3.2 Economies of Size *versus* Economies Scale
  - 3.3 Economies of Size *versus* Economies of Scope
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

### 1.0 INTRODUCTION

The size of a firm to a large extent will determine the level of output vis-à-vis the profitability and efficiency of the resources employed in production. The larger the size of a firm or farm the greater the economies it is expected to enjoy. The economies of size however depend on many factors such as the managerial and administrative acumen of the resource manager.

### 2.0 OBJECTIVES

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

- define economies and diseconomies of size
- identify determinants of economies and diseconomies of size
- differentiate between economies of size and economies of scale, and economies of scope.

### 3.0 MAIN CONTENT

#### 3.1 Meaning of Economies of Size

The concept of economies of size means that the average cost per unit of production decreases as the size of the farm increases. The term 'economies of size' is also used to describe the fall in total cost per unit of production found on larger farms. The economies can occur because the farmer is able to spread more production over the same level of fixed expenses. Economies of size can also occur when a farm is able to obtain volume discounts for inputs such as seed or fertilizer. An example would be the cost for pollution monitoring around a swine

production facility. If the farm is required to monitor the groundwater around the facility for contamination, they must put in a well and monitoring equipment, which represent fixed costs and can serve a large number of pigs. As the number of pigs sold increases, the costs for this aspect of production would decrease. And, as a result, monitoring in this fashion would actually provide a cost advantage to a larger operation. There are two related concepts, which must not be confused with economies size. These concepts are economies of scale and economies of scope.

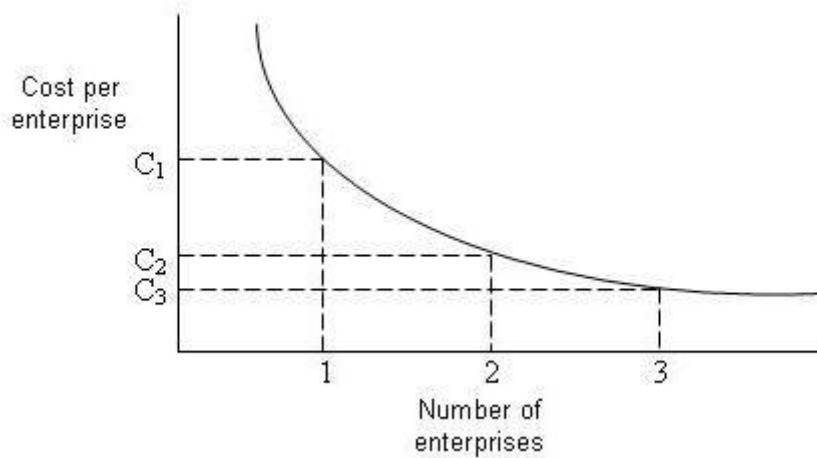
### **3.2 Economies of Size *versus* Economies Scale**

Economies of scale, which measure what happens if all inputs are increased by the same proportion. If costs per unit go up, then there are diseconomies of scale. If costs per unit go down, there are increasing economies of scale, and if the costs per unit remain the same, there are constant returns to scale. According to Kay (1981) fixed costs such as management, supervision, information and machinery can be spread over more units of output (resulting in reductions in cost per unit of output (increasing returns to scale or size). Returns to scale are defined as the proportionate change in output when all inputs are increased in the same proportion.

Economies of scale may be defined in terms of elasticity of cost with respect to output. However, in a multi-product setting, an economy of scale is defined as those reductions in average cost when all outputs are increased proportionally holding all other input prices constant. Mathematically an economy of scale is equivalent to the inverse of the sum of all the elasticities of total production cost with respect to all output. Economies of scale prevail, if the sum of elasticity of production is greater than 1 and, accordingly diseconomies of scale exist if the sum of elasticity of production is below 1. In the case of the sum of elasticity of production = 1 no economies of scale or diseconomies of scale exist. (See further details on economies of scale in unit 1).

### **3.3 Economies of Size *versus* Economies of Scope**

Economies of scope refer to reducing costs for using resources by spreading the resources over more than one enterprise. The economy of scope concept is defined as the process of reducing the cost of resources and skills for an individual business enterprise by spreading the use of these resources and skills over two or more enterprises. As shown in Figure 1, the cost for an enterprise is cut in half if the resources are used in two enterprises rather than just one. If the use of the resources is spread over three enterprises, the cost per enterprise is reduced to third.

**Figure 1: Economies of Scope**

Both horizontal integration (HI) and vertical integration enable farms and business owners to enjoy economies of scope. For instance a combination of fishery and poultry is an example of horizontally integrated enterprise. If the cost of producing both poultry and fish in an horizontally integrated farm is greater than the cost of producing them separately, the farm is described as having economies of scope. If otherwise, the farm has diseconomies of scope. The economies of scope could have arisen from because the same set of workers in the poultry farms are used for feeding and draining of fish ponds and for other activities in fishery enterprise. In the same vein, the same source of water (well) will serve the same enterprises. With respect to crop production, the cost of a combine harvester can be spread over several crop enterprises because, in many cases, the only thing needed to harvest another crop is a different combine head. Another combine does not need to be purchased for each additional crop enterprise. The same combine can be used to harvest corn, soybeans, wheat, barleyetc.

As a farmer, agronomic skills can be used in the production of two or more crops. Being a seed dealer and a farmer means that the knowledge gained about seed selection can be used both as a salesperson and a farmer. The same can be said about farmers who sell crop insurance.

Economies of scope are different from economies of size. Economies of size involve spreading fixed cost over a large number of units of production of the same product or enterprise. Economies of scope involve spreading the cost of a set of resources or skills over two or more products or enterprises.

However, economies of size and scope are not mutually exclusive. While economies of scope allow costs to be spread over several

enterprises, the size of each enterprise can be increased to also achieve economies of size.

According to Kay (1981) fixed costs such as management, supervision, information and machinery can be spread over more units of output (resulting in reductions in cost per unit of output (increasing returns to scale or size). Returns to scale are defined as the proportionate change in output when all inputs are increased in the same proportion.

#### **4.0 CONCLUSION**

In this unit, you have learnt about the economies of size and related concepts namely economies of scale and economies of scope.

#### **5.0 SUMMARY**

The term ‘economies of size’ is used to describe the fall in total cost per unit of production found on larger farms. The economies size can occur because the farmer is able to spread more production over the same level of fixed expenses. Economies of size are different from economies of scope and economies of scale. While economies of size involve spreading fixed cost over a large number of units of production of the same product or enterprise economies of scope involve spreading the cost of a set of resources or skills over two or more products or enterprises and economies of scale measure what happens if all inputs are increased by the same proportion.

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

1. Define economies of size.
2. Differentiate between economies of size and economies of scale.
3. Explain concisely the concept of economies of scope. State how an agribusiness firm can enjoy economies of scope.

#### **7.0 REFERENCES/ FURTHER READING**

Ahuja, H .L. (2012). *Principles of Microeconomics* ISBN 81-219-0335-1 S. New Delhi, India: Chand and Company Limited.

David Colander, H.O. (2008). *Economics* 7/e ISBN 0073402869 London: McGraw-Hill.

Hill Berkely (1990). *An Introduction to Economics for Students of Agriculture* 2/e ISBN 0-08-037497-2 , England: Pergamon Press Plc Headington Hill Hall Oxford, OX30BW.

Kay, Ronald D. (1981). *Farm Management: Planning, Control and Implementation* ISBN 0-07-066366-1 McGraw-Hill Kogakusha, Ltd.