



NATIONAL OPEN UNIVERSITY OF NIGERIA

FACULTY OF AGRICULTURAL SCIENCES

COURSE CODE: AEA310

COURSE TITLE: Farm Business Organization

Course Code

AEA310

Course Title

Farm Business Organization

Course Developer/Writer

Dr J.O. Oseni

Department of Agricultural

Economics and Extension

Federal University of Technology, PMB 704

Akure, Ondo State

Nigeria.

e.mail: [@yahoo.com](mailto: @yahoo.com)

Course Editor

Programme Leader

Course Coordinator

NATIONAL OPEN UNIVERSITY OF NIGERIA

Course Guide

Introduction

What you will learn in this course

Course Aims

Course Objectives

Working through this course

The course materials

Study units

Presentation Schedule

Assessment

1.0 Introduction

Agriculture is gradually taking a new turn in many developing countries. More and more traditional farmers are engaging in semi-commercial ventures, so, farmers need to improve their knowledge of farm management techniques. Farm management deals with decision making and problems at the farm level, regardless of size or type of farm.

There is great emphasis today on record keeping on the farm. This emphasis is correct. Many farmers presently in financial difficulties could have avoided some of these difficulties if they had records to consult. The purpose of keeping records is not just to accumulate masses of information. It is to use this information to compare and discern trends in the farm business. These trends help farmers make sensible managerial decision.

There are four modules consisting 21 units altogether. The first module starts with the Nature and scope of farm Business organization. This gives a focus on the definition, scope and objectives of farm Business organization. The second module discusses Farm records and Accounting. The third module discusses the various sources and uses of farm resources while the fourth module take a critical look at the economic, and business climate of farming in Nigeria.

2.0 What you will learn in this course

You will learn about the Nature and scope of farm business organization, farm records and accounting; acquisition and use of farm resources and the economic, climate and business problems in Nigeria.

3.0 Course Aims

The aim of this course is to create an in-depth knowledge of Farm Business Organization. This will enable the farmers and policy makers to know the best approaches to managing farms. Thus, the aim of farm Business organization is to:

1. Explain the Nature and Scope of farm business organization.
2. Discuss farm records and Accounting.
3. Discuss acquisition and use of farm resources -land, labour, capital and entrepreneur.
4. Discuss economic climate and business problems in Nigeria.

4.0 Course Objectives

In order to achieve the course aims, there are some overall objectives set for the course. Besides, each module and each unit has their respective objectives which you and your course facilitator must constantly refer to, so that no objective is skipped.

All the modules and unit objectives are specifics of the course objectives. The course objectives are stated as follows:

- Define and state the nature and scope of farm Business Organization.
- Explain farm records and accounting.
- Explain the various sources and uses of farm productive resources in farming.
- Identify the various risks associated with farming business.

5.0 Working through this Course

This course contains some packages that you will be given at the beginning of the semester: One of them is the course materials. Your full participation in both the continuous assessment and the final written examination are two areas expected of you to fulfill at the end of the course. The 21 units of the course packaged for you in modules are as shown below:

Module 1: Nature and scope of farmer Business Organization.

- i. Definition and scope of farm Business Management
- ii. Objectives of farm business management.
- iii. Nature of farm business management decisions iv.

Organization of farm business set up

- v. Attributes and functions of a farm manager.
- vi. Application of management principles to farm organization and operation.

2. Farm Records and Accounting

- i. Methods of collecting farm management information.
- ii. Farm Records
- iii. Balance Sheet
- iv. Profit and Loss Account and the Cashflow statement
- v. Farm Business Analysis

3. Acquisition and use of farm resources - Land, Labour, Capital and entrepreneur.
 - i. Meaning and scope of farm resources
 - ii. Method of Acquiring farm resources
 - iii. Various uses of farm resources
 - iv. Resource-use efficiency
 - v. Management of farm resources
4. Economic climate and Business problems in Nigeria.
 - i. Business Environment in Nigeria.
 - ii. Business objectives
 - iii. Decision-making
 - iv. Sources of Risks and uncertainty in Agriculture
 - v. Measures for reducing risk in Agriculture

From all indications, you should be able to complete three -credit unit about 15 weeks in a semester, well spread out in each unit are introduction to the unit, specific objectives reading material on sub-topics, self assessment questions, some exercises, conclusion, Summary, Tutor-marked Assignments (TMA) and references.

Course Material

Major course materials of the course are as follows:

1. Course Guide: This looks like a blue print that spells out what constitutes the course itself.
2. Study units: Each of these provides an overview of the content and number of units that will be covered in this course.
3. Assignment files: These files contain challenging tutorial questions termed as Tutor - marked Assignments (TMAs) that will enable you to assess yourself at the end of every assignment that will be handed out by your tutor.
4. Presentation Schedule: Certainly, the modus operandi (e.g time table, hours expected on each unit/ module, assignment submission procedure on how it will be self tutored with the monitoring techniques by Noun will be in the information package of this schedule).

Study Units

Details of the study units have earlier on been presented. It is spelt out in modules with corresponding units and titles, You will be expected to spend 2-3hours in studying a unit.

References and other Resources

Apart from this study unit, some reference materials are provided as additional reading materials to support your study. You may come across them in Noun library or elsewhere.

Instructional media

As an open and distance learning University, several and relevant multi-media that can make learning possible are available.

Assignment File

This has been discussed earlier, it is mandatory to always turn in your assignments to any tutor you are assigned to

Assessment

You will be expected to complete at least ten assignments by the end of the course. Some of these will be in the form of a term paper and continuous assessments (CA). You will be expected to write a final examination in the course. The overall score in the course will be a sum of 40% of CA and 60% of written examination. You will be expected to have 50% in the CA and 50% in the written examination, anything short of this will count as failure.

Course Code	AEA310
Course Title	Farm Business Organization
Course Developer/Writer	Dr J.O. Oseni Department of Agricultural Economics and Extension Federal University of Technology, PMB 704 Akure, Ondo State Nigeria. e.mail: @yahoo.com

Course Editor

Programme Leader

Course Coordinator

NATIONAL OPEN UNIVERSITY OF NIGERIA

AEA310: FARM BUSINESS ORGANIZATION

Course Outline

Module ONE: NATURE AND SCOPE OF FARM BUSINESS ORGANIZATION

Unit 1: Definition and scope of farm management

Unit 2: Objectives of farm management

Unit 3: Nature of farm Management Decisions

Unit 4: Organization of the farm set up

Unit 5: Attributes and functions of a farm manager

Unit 6: Application of management principles to farm organization and operations.

MODULE TWO: FARM RECORDS AND ACCOUNTING

Unit 1: Methods of collecting farm management information

Unit 2: Farm records.

Unit 3: Balance sheet

Unit 4: Profit and loss account and the cash flow statement

Unit 5: Farm business analysis

MODULE THREE: ACQUISITION AND USE OF FARM RESOURCES - LAND, LABOUR, CAPITAL AND MANAGEMENT

Unit 1: Meaning and Scope of farm Resources

Unit 2: Method of Acquiring farm Resources

Unit 3: Various uses of farm resources

Unit 4: Resource - use efficiency

Unit 5: Management of farm resources.

MODULE FOUR: ECONOMIC CLIMATE AND BUSINESS PROBLEMS IN NIGERIA

Unit 1: Business Environment in Nigeria

Unit 2: Business objectives

Unit 3: Decision-making

Unit 4: Sources of Risks and Uncertainty in Agriculture

Unit 5: Measures for Reducing risk in Agriculture

MODULE ONE: NATURE AND SCOPE OF FARM BUSINESS

ORGANIZATION

Unit 1: Definition and scope of farm Business management.

Unit 2: Objectives of farm management.

Unit 3: Nature of farm management decisions

Unit 4: Organization of the farm set up.

Unit 5: Farm Records and Accounting

Unit 6: Farm Business Analysis

Unit 1: Definition and scope of farm Business management

1.0 Introduction

2.0 Objectives

3.0 The Body of the unit

3.1 Definition of Farm Management

3.2 Perceptions of farm Management

3.3 Farm organizations

3.4 Farm operations

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignments

7.0 References and other sources

1.0 Introduction

Agriculture is the science of converting productive resources to produce livestock, crops and fisheries. The productive resources include: land, Labour, capital and entrepreneur. The farmer strives to combine the resources in such a way that he minimizes their use hence his cost while maximizing his output and hence his return, thereby ensuring that his income i.e net returns or profit is as high as possible.

In this unit, you will get more acquainted with what farm management is, its dimensions as well as the definitions of farm organization and operations

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Define farm management
- Discuss the dimensions of farm management
- Define and explain farm organization and farm operations.

3.0 The Body of the unit

3.1 Definition of farm Management

Farm Management is the art of applying economic principles in the management of a farm business OR farm Management could be defined as the science which deals with the organization and operation of the farm with a view to generating maximum possible income on a continuous basis.

The basic principle of farm management is selecting the best alternative(s) among several alternatives which will yield the best results and the desired goals.

3.2 Perceptions of Farm Management

Farm Management is perceived in three ways by extension workers:

- i. Give organized guidance to a practicing farmer with a view to improve his managerial skill and ability.
- ii. Assist the farmer to analyze his production problem in order to arrive at his profitable management decision.
- iii. Take back to the researchers farmers problems which are preventing profitable organization and operations of the farm.

The Researchers Perspective of farm management are:

- i. Collect data from farmers field.
- ii. Analyze and interpret them in order to make inferences for possible farm land improvement as well as recommendations.

3.3 Farm organization

Farm organization involves decisions on which agricultural enterprises will be included in the farm and how the enterprises should be combined

3.4 Farm Operations

Farm operation involves the implementation of decisions on the enterprises selected and their combinations.

An enterprise refers to any business undertaking. However, in farming, enterprise is a type of production (such as crops, livestock etc) which has distinctly different activities. The group of activities related to an enterprise is called the production system of that enterprise. An activity of the production system is commonly called a husbandry practice.

An activity is a production treatment or husbandry practice which must be sequentially undertaken if the enterprise is to produce. These include: land preparation, planting, fertilizing, weeding, pest and disease control, harvesting and marketing.

4.0 Conclusion

We have learnt that farm management is the application of economic principles in the art of managing a farm business. The perception of farm management, the meaning and scope of farm organization and farm operations have also been discussed.

5.0 Summary

In this unit you have learnt that:

- Farm management is the application of economic principles in the art of managing a farm business.
- Farm management can be looked at from the perspectives of extension workers and researchers.
- Farm operation and farm organizations are essential and important terminologies central to the understanding of the concept of farm management.

6.0 Tutor marked Assignment

1. What is farm Management?
2. Differentiate between an activity and an enterprise in relation to farm operations.
3. What are the various perspectives to the study of farm management?

7.0 References and other sources

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

Ekongocha, F.O and Jegasothy K (1989): “Managing a small-scale plantation”. Proceedings of a Training Workshop held on 11-15 September 1989 at USP Extension Centre, Port Vila Vanautu IRETA Publishers, Apia, Western Samoa P.1

Olukosi, J.O and Erhabor, P.O (1988): Introduction to Farm Management Economics: Principles and Applications. AGITAB Publishers Ltd Zaria PP 1-2.

Unit 2: Objectives of farm Management

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body
 - 3.1 The farm as production sub-system
 - 3.2 Specific objectives of farm management
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

The problem of limited resources (or resource scarcity) is the central issue in any economic analysis. This is because, the ability of any society to produce depends on the availability of resources, since resources are limited (or scarce) in all societies, available resources must be allocated in the most efficient way. Efficient allocation of resources means that the society /producer must organize available resources and determine their priority uses in the best way possible.

2.0 Objectives

By the time you would have finished reading the unit, it is expected that you should be able to:

- Explain the farm as a production subsystem in an economy.
- Explain the concept of resources scarcity in relation to farm management.
- Discuss the specific objectives of farm management

3.0 The body of the unit

3.1 The Farm as a production sub-system

Economics is the study of the allocation of scarce resources among unlimited wants and needs. It is concerned with how best and what efficient way to allocate limited resources to various alternative uses.

The farm is a production subsystem in an economy, and normally identified as a business venture, Resources are actually inputs (also known as factors of production), which combine to give yield or output such as crop and livestock products, farm resources are land, labour, capital (i.e farm tools, equipments, chemicals e.g fertilizers, herbicides), financial inputs (e.g loans, cash money cash gifts/remittances) management (i.e Skills to manage) and technology (e.g new varieties, an innovation or idea).

The ability of a society or a producer to organize and allocate resources efficiently depends on their management capacity. So, management is concerned with decision making. Like in any business venture, the farmer is the manager of a farm business and he decides how best to use his limited resources.

Applying economic principles in the art of managing a farm business is known as farm management. This is the ability of a farmer (farm operator) or (manager) to organize resources and manipulate them to his advantage so as to control and determine

the relationship between input and output when the exact conditions of the farm production environment is not fully known.

The exact and full knowledge about a farm situation is not always possible. However, the farmer must make decisions, even if it may turn out to be wrong. The art of management involve, minimizing (or reducing) the possibility of getting the wrong results by using past information, experiences, getting advise from experts or extension advisors etc. a good manager is flexible and responsive to changes in order to avoid getting wrong results.

3.2 Objectives of farm Management

The central objectives of farm management is to increase the efficiency with which farm production resources are used in the production of farm enterprises such that maximum profit is realized. Given that farmers differ in terms of values and aspirations maximization of profit will not be an end to some farmers, some farmers may consider consumption of goods and services as an appropriate end to consumers. For convenient sake, farm management specialist usually considers profit maximization as the ultimate goal from analytical point of view. This assumption, carried over from economic theory is reasonable because in addition to providing for increased level of food and fibre, profitable farm business generate capital for investment and expansion of farm business.

It is however not unusual for a farmer to set for less than maximum profit given certain constraints or special circumstances. Such constraints could be religious such as rearing swine in a predominantly muslim community. A less profitable enterprise may be included in the farm business with a view to meet consumption habit of the family. Thus, a non-monetary factor may over-ride the profit maximization assumption in farm management.

In summary, the objectives of farm management could be either of the following or a combination of all of them:

- i. Profit maximization
- ii. Cost minimization
- iii. Be the leading producer i.e control lion share of the market.
- iv. Utility maximization.

4.0 Conclusion

We have learnt that the farm is a production sub-system or unit in an economy. The objectives of farm management have also been discussed.

5.0 Summary

In this unit you have learnt that:

- The farm is a production sub-system in an economy and normally identified as a business venture.
- The objectives of farm management include among other: profit maximization as well as control the lion share of the market.

6.0 Tutor Marked Assignment

1. Discuss the farm as a production sub-system.
2. What are the specific objectives of farm management

7.0 References and other sources

Ekongocha, F.O and Jegasothy K (1989): “Managing a small-scale plantation”. Proceedings of a Training Workshop held on 11-15 September 1989 at USP Extension Centre, Port Vila Vanautu. IRETA Publishers, Apia, Western Samoa P.1.

Unit 3: Nature of farm management decisions

1.0 Introduction

2.0 Objectives

3.0 The Body of the Unit

3.1 Farm Management Decision Making

3.2 Dynamic Nature of farm Management Decision

4.0 Conclusion

5.0 Summary

6.0 Tutor marked Assignment

7.0 References and other sources

1.0 Introduction

The basic principles in farm management is selecting the best alternative(s) among several alternatives which will yield the best results and the desired goal, for a farm operator, selecting the best alternative depends on the decision he makes when faced with management decision making questions.

In this unit, you will get more acquainted with what the management decision making questions are and how they can be solved. In addition, you will know the dynamic nature of farm management decision.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- State the basic farm management decision making questions
- Explain the basic principles used in answering the farm management decision making questions
- Explain the dynamic nature of farm management decision.

3.0 The body of the unit

3.1 Farm Management Decision making

For a farm operator, selecting the best alternative(s) among several alternatives that will yield the best results and the desired goal depends on the decision he makes when faced with the questions of:

- i. What to produce?
- ii. How much to produce?

- iii. What method of production to adopt?
- iv. How to get rid of the produce (he will produce?)

These are management decision making questions which a manager must always try to answer whenever he is faced with operational problems on the farm.

3.1.1 The question of “What to Produce?”

A farm operator must choose among several enterprises. What kind of enterprise(s) to produce depending on his resources availability. The simple farm management approach to such a decision is based on an economic principle known as the “opportunity cost”. This is defined as the benefit forgone as a result of choosing one alternative relative to another. In attempting to decide on what to produce, the farmer manager should list all the alternative enterprises that he would wish to produce using his limited resources. He should then compare actual benefits that would accrue from each of them and rank them. These benefits could be either income, higher yield, family welfare and satisfaction, and traditional beliefs and customs. All of these should be given a value. By using income to measure benefits, in the case of Mr Ojo the list of enterprises with estimated benefits could be ranked as shown in Table 1

Table 1: Ranking Alternatives

Enterprises	Estimated Return (N/ha)	Rank
Banana	50,000	3
Vegetables	40,000	4
Cassava	100,000	1
Maize	60,000	2

Since cassava gives a higher income benefit, the opportunity cost of producing any other enterprise other than cassava would be N100,000. So it would be better to choose cassava to produce but because of family obligation he might have to produce vegetables too.

3.1.2 The question of how much to produce?

Having decided on what to produce, the farmer-manager must now decide on how much to produce. He must determine, before hand, the quantity of the chosen enterprise which he is capable and wish to produce. In Mr Ojo’s case, he should decide on the area of land to devote to the chosen enterprise. In doing so, he must consider the amount of

land, labour, and other capital inputs available to him, to enable him to produce the desired level of output. He must also decide on how best to allocate these resources for not only the chosen enterprise, but other commodities that the family might require.

3.1.3 The question of “What method of production?”

The next major decision to be made by the farmer-manager is what method of production to use. Production systems vary from country to country. These are based on a number of factors e.g tradition, climate, experience, foreign influence and acquired skills, whatever system exists, the farmer must decide on the one most suitable for him. The question of how to produce bothers on the issue of technology to adopt. In fact, this question should be addressed if possible simultaneously with the question of how much to produce (scale of production).

3.1.4 The question of “how to get rid of the farm produce”?

This is a simple one for purely subsistence farmers, who produce only for family use. But as we all recognize, there are no purely subsistence farmers now, most farmers are mixed - subsistence operators (the common term is semi-subsistence). So, most farmers produce surpluses of marketable and market surplus for sale. The problem is how to get rid of these surpluses.

The farmer should decide on what to produce and how much, bearing in mind that any surplus can be marketed. He must identify the market at the earliest stage and consider such factors as price market arrangements, location, transportation to and from the market, government policies etc. This information can be obtained from his records.

3.2 Dynamic Nature of farm Management Decision

Farm management decision at farm level are complicated by the dynamic nature of the environment and hence the risk and uncertainty in the environment. Farm Managers make plans at a point in time for the production of crops, livestock and fisheries enterprises whereas products are to be obtained at future date. Yet between the time the plans are made and the time the programmes are executed, several important factors may change thus necessitating major changes in the original plans. To this extent farm managers must make plans, review the plans theoretically and make necessary changes as required.

Factors that can cause changes to the plan include:

1. Changes in resource endowments
2. Changes in technology
3. Changes in price
4. Changes in government policies
5. National risks and uncertainties

4.0 Conclusion

We have learnt that there are basic farm management decision making questions that are dynamic due to changes in the environment. These farm management decision making questions can be solved by applying economic principles

5.0 Summary

You have learnt in this unit that:

- The basic farm management decision making questions are: what to produce, how to produce, when to produce and for whom to produce.
- Farm Management decisions at the farm level are complicated by the dynamic nature of the environment.
- Economic principles such as opportunity costs, returns to scale etc can be used to answer the basic farm management decision making questions.

6.0 Tutor Marked Assignment

1. State and explain the basic farm management decision making questions.
2. Explain the dynamic nature of farm management decision
3. What are the factors that can cause changes in the farm plans of a farm manager?

References and other sources

Adesimi, A.A (1988): Farm Management Analysis with Perspective through the development process. PP 6-7

Ekongocha, F.O and Jegasothy K (1989): “Managing a small-scale plantation”. Proceedings of a Training Workshop held on 11-15 September 1989 at USP Extension Centre, Port Vila Vanuatu IRETA Publishers, Apia, Western Samoa PP.1-6

Unit 4: Organisation of the farm set up

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 Organization of the farm set up
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

Success in farming as an ongoing and viable venture requires that the farmer organizes his farm right from the onset into an efficient business unit by applying sound principles of farm management to every aspect of the farm.

In this unit, you will get more acquainted with how to set up a farm.

2.0 Objectives

It is expected that at the end of this unit you will be able to know how a farm is being set up bearing in mind some important factors.

3.0 The Body of the Unit

3.1 The organization of the farm set up

In the organization of the farm set, the following factors need to be considered:

- a. Selection of the farm
 - b. Distribution of investment
 - c. Farm layout
 - d. Selection of enterprises
 - e. Distribution and Adjustment of enterprises
- a. Selection of the farm

Whether one is dealing with a scheme of farm settlement, a cooperative farm or an individual farm unit, the selection of the farm land is very important because the productivity of every farm and the cost of marketing the output bear direction to the

choice of the land. Therefore, when selecting a farm the decision -maker should give careful consideration of the following factors:

- i. The climatic conditions
 - ii. The soil, its type, fertility and drainage conditions
 - iii. The amount of waste land which cannot be reclaimed
 - iv. Distance from market, home and water supply
 - v. Condition of roads and distance from highways
 - vi. Condition of improvement of the farm
 - vii. The clearing cost.
- b. Distribution of investments

In farm organization, the proper distribution of investment expenditure is fundamental to the success of the farm and the solution of this problem naturally follows the question of selection of the farm. In this connection, the farmer is concerned with three fundamental factors of production, namely: land, labour and capital as well as their proper adjustment to meet changing economic conditions such as changes in land values, in labour costs and in the cost of materials and equipment.

The three factors of production of any farm business we have indicated above may be analyzed as follows:

i. Land

The farm manager is concerned with the location of land, the quality of the soil and the advantages and disadvantages of the climatic factors associated with the land

ii. Labour

The farmer as the manager of his farm should work out a schedule that makes it possible for him to use his labour most efficiently. He should also bear in mind the mode of payment for work done on the farm. i.e payment of a fixed sum per period of time or payment on the basis of time worked or payment by results.

iii. Capital

The problem of proper farm organization for successful farming revolves around questions like what combination of capital and labour will bring the highest efficiency and profit? What is the proper proportion of fixed and working capital that will secure the

greatest efficiency and profit? What minimum level of social overhead capital is needed for agricultural production to be profitable.

c. Farm Layout

Planning the layout of the farm naturally falls under three divisions:

- i. The layout of the farmstead, A farmstead is that part of a farm occupied by the house, the barn and other buildings together with the garden and adjacent yards.
- ii. The layout of the farm buildings in terms of the capacities of different buildings and the interior arrangement.
- iii. The layout of the fields

The following general principles may serve as guidelines for farm managers in planning the layout of the farm.

- i. The practical farm manager should endeavour to develop a layout that will give him the required building capacity, the most convenient and efficient interior arrangement and a layout of fields that will be easily accessible from the farmstead and yet will conform in size and number to the size of the farm and the distribution to the crops desired.
- ii. That if the land is uniformly of good quality, the farmstead should be centrally located so as to give easy and direct access to the fields. This saves time and effort on the part of the farmer and his team. However, if there are some rocky and stony patches, the farmstead may best be located in this area so as to make the good soil available for crop production.
- iii. As regards making divisions of farms into fields, consideration should be given to the size of the fields, the shape of the fields, the rocky and un-usable patches and to the number of fields required.

d. Selection of enterprises

In the selection of possible crop and livestock enterprises, there are two sources which may provide guidance to the farmer. Here, the problem is one of working out the kinds of crops and livestock that are predominantly adapted to the area, one of the usual sources of this kind of information is the evidence of experimental or research studies on

soil types, vegetation, pests, rainfall, temperature and other biological and agroclimatic factors which determine the kinds of crops that can be grown in specific area.

The second source is the experience of successful farmers in the area who have suitable knowledge about the most efficient pattern of farm organization and operation in the area. The successful farmer in the area will also have knowledge about the problem of demand, marketing and distribution of farm crops and livestock in the area and how these problems can be tackled to raise a viable and profitable farm business enterprise.

e. **Distribution and Adjustment of enterprises**

After the selection of enterprises the question that arises next is to determine the optimum combination. The solution to this problem can be approached in two ways. The first is the intuitive method which ensures that the ultimate farm plan contains farm enterprises which provides the following requirements:

- i. a good distribution of labour
- ii. Conservation of soil fertility
- iii. Enough flexibility in the system so as to make it possible to easily increase the production of crops that become more profitable and
- iv. Appropriate between food and cash crops.

The second method is the use of the formal farm planning tools such as budgeting, empirical production function and programming techniques to determine optimal enterprise combination.

4.0 Conclusion

We have learnt that there are certain factors to be considered in the organization of the farm set up.

5.0 Summary

You have learnt in this unit that the basic factors to consider in the organization of farm set up are: Selection of the farm, Distribution of investment, farm layout, selection of enterprises, and distribution and adjustment of enterprises.

6.0 Tutor Marked Assignment

1. Explain the general principles that may serve as guidelines when planning the layout of the farm.

2. Explain the two major methods of determination of optimum combination of optimum combination of enterprises in a farm.

7.0 References and other sources

Adesimi, A.A (1988): Farm Management Analysis with Perspective through the development process. Chapter 3, PP 25-34.

Unit 5: Attributes and functions of a farm manager

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Attributes of the farm manager
 - 3.2 Functions of the farm manager
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor marked Assignments
- 7.0 References and other sources

1.0 Introduction

Agriculture is an industry involving a variety of disciplines such as economics, biological sciences, sociology as well as physical science. Although, the agricultural industry cuts across a number of such disciplines, nonetheless, a successful manager need not necessarily be a specialist in any one or a combination of these disciplines provided of course, he has access to the information made available by the relevant disciplines and he is able to judge the relevance of such information to his particular situation. Besides, he must possess some qualities.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Explain who a farm manager is.
- State and explain the qualities and or attributes of a good farm manager.
- Explain the functions of the farm manager.

3.0 The body of the unit

3.1 Attributes of the Farm Manager

A farm manager is anybody with a university degree or Higher National Diploma in Agricultural Economics, farm Management and or General Agriculture in charge of overseeing a farm. In addition, he is expected to possess the following attributes:

1. A good farm manager must possess scientific and analytical mind and must have mental capacity to think through and solve a problem.
2. He must be hardworking and dedicated.
3. He must be ready to take useful advise from his fellow colleagues when taking some vital management decisions.
4. He must have imagination, insight and initiative necessary to gather new knowledge and the willingness and ability to learn.
5. An efficient farm manager must have the willingness and ability to accept responsibility and a reasonable degree of risk.
6. A good farm manager must have the ability to take action and get things done.

The acquisition of the attributes enunciated above requires not only the possession of entrepreneurial ability on the part of the manager but some level of technical competence in agriculture.

3.2 Functions of the Farm Manager

Management is a decision-making process which coordinates the factors of production to produce the desired output. The four major functions of management include planning, organizing, directing and controlling.

Planning is a basic but complex management function combining financial, physical and technical aspects for selecting and developing the best of the alternative ways of achieving stated objectives. Planning itself is concerned with what needs to be done, planning therefore is essentially decision making since it means selecting courses of action, from amongst alternatives, either for the entire business or for any part of it. Planning is the establishment of organizational goals and a strategy for accomplishing them. Plans made will usually be concerned with the short, medium and long term goals of the organization. Setting up a goal as well as devising workable strategy for attaining the goal are important attributes of good management once the goal and strategies have been set, organizing function makes things proceed as planned.

Organizing is therefore an operational function which depends heavily on the coordinated effort of an entire organization. Management directs the operations to achieve desired goal through innovation. Management seeks to obtain a high level of producing from the employees through motivation and proper guidance by maintaining a high level of cooperation.

The managerial function of control is the process by which action is adjusted to achieve business objectives. It is not merely collection of information. All managers, but especially those entrusted with effecting plans, exercise control by taking action to return to course when events have not occurred as planned, put simply, managerial control means knowing where, you are going, when you should be there, how to get there, where you are now, changing direction if you are off-course and moving faster or slower if your timing is not as planned Departures from plan should be found soon enough to allow early efficient, correction, at reasonable cost, control is justified only if departures from

plan are corrected or the plan is redrawn. An effective control system requires the following steps:

1. The key areas to be controlled should be defined when the plan is made.
2. Performance standards should be set for the key areas.
3. Execute the plan and measure the results.
4. Compare results with the pre-set standards.
5. Take corrective action.

In essence, control function deals with the supervision of the achievement of goals and comparing actual results with those envisaged in the plans and the actual performance in past periods. The results are directly examined and related to the plans and performance standards established by other managerial functions.

Decision making is the activity of selecting from among possible alternatives, a future course of action. It is essentially, therefore, choosing between alternatives, even if the alternatives are to accept a proposed change or to continue as at present.

Managers are making decision almost constantly for if no decisions had to be made, there would be no need for managers. It has been said that decision-making is management and managers are often judged by their ability to make decisions. All managers whatever their precise roles, are constantly involved in such decision as how to use resources, determining production plans and investment priorities.

Decision making is the most important responsibility of a manager. These decisions form the life-wire of the farm business. A successful manager is one who has the skill to choose between alternatives fast. In doing so, he uses the problem solving approach which can be broken down into eight components. The eight stages have been worked as shown in figure 1.

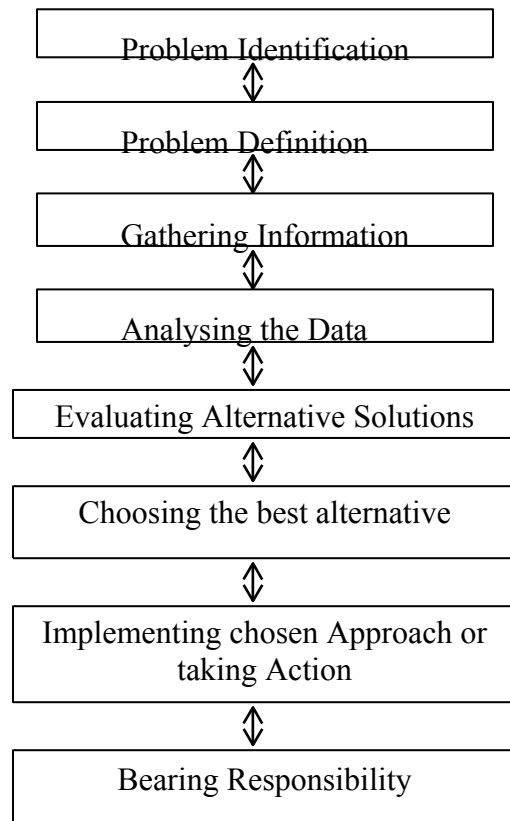


Figure 1: The Right steps of the problem solving approach.

A problem exists when “what is” differs from “what ought to be”. The problem must first be recognized by asking “Does what exist differ from what’ ought to be?”. The problem needs to be defined in operational terms once recognized.

Having defined the problem, the manager must observe facts about the problem and conceive ideals about its solution. Making relevant observation depends on the ability of the individuals. The farm manager must set objectives to gather relevant information and record information for future use. At the analysis stage the manager must relate the data available to the problem and objectives, develop alternative solutions and analyze the problem. He can then uncover some new difficulties and readjust his solution. If further information is needed to solve the problem he should go back and gather more information thus providing a feed - back loop between the various stages. For example, he may at the analysis stage find he need, to redefine the problem to be able to solve it. He then goes back to the problem definition stage and subsequently gathering

of new relevant data. The best solution should be chosen and appropriate action taken. The acceptance of responsibility is important because taking action involves some risk bearing. The farm manager must be ready to bear responsibility of this actions.

4.0 Conclusion

We have learnt in this unit that a good farm manager is expected to possess some attributes. Also, you have been acquainted with the functions of the farm manager.

5.0 Summary

In this unit, you have learnt that:

- A Farm manager is anybody with a University degree or Higher National Diploma in Agricultural Economics, Farm Management or General Agriculture in charge of overseeing a farm.
- A good farm manager among other attributes must be hardworking, dedicated, honest.
- The functions of farm manager entails planning, organizing, directing and controlling

6.0 Tutor Marked Assignment

1. Who is a farm manager?
2. What are the qualities of a good farm manager?
3. What are the basic functions of a farm manager?

7.0 References and other sources

Adesimi, A.A (1988): Farm Management Analysis with perspective through the Development Process. Chapter 1 PP 1-14.

Olukosi, J.O and Erhabor, P.O (1988): Introduction to Farm Management Economics: Principles and Applications. AGITAB Publishers Ltd, Zaria PP 2-3.

Unit 6: Application of Management Principles to Farm Organizations and operations.

1.0 Introduction

2.0 Objectives

3.0 The body of the unit

 3.1 Budgeting

 3.2 Gross Margin

4.0 Conclusion

5.0 Summary

6.0 Tutor marked Assignments

7.0 References and other sources

1.0 Introduction

Applying economic principles in the art of managing a farm business is known as farm management. In this unit, you will be acquainted with some of the economic principles particularly Budgeting and Gross Margin used in farm organizations and operations.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Define budgeting
- Explain Gross Margin
- State the advantages and disadvantages of budgeting
- Prepare a budget - complete and partial

3.0 The Body of the unit

3.1 Budgeting

3.1.1 The meaning of budgeting and budget

Budgeting is any attempt to estimate the future on outcome of a plan in quantitative terms (Adesina, 1988). Budgeting is needed for all progressive, store, hotel or even for personal affairs to estimate whether a proposed change is justified by the chance of raising profit. All budgeting is forecasting, it means trying to state now what will occur in future. Inevitably, this is uncertain but it is better to budget intelligently than not to budget at all but simply hope for the best.

A farmer budget is a detailed physical and financial plan for the operation of a farm for a certain period (Olukosi and Erhabor 1988).

3.1.2 Budgeting Types

There are two major types or categories of farm budgeting

- 1 Total or complete budgeting
- 2 Partial budgeting

Total or complete budgeting

Complete budgets are concerned with the whole farm system so all expenses and receipts likely to be incurred are included.

Complete budgeting is needed most for the following situations:

- i. When a plan for a new farm or new farmer needs to know whether the farm is a virgin land or already partly developed.
- ii. When a large, basic change is being considered that would affect most, perhaps all the farm costs and receipts, Examples include conversion of a dairy farm into a piggery or a change from tobacco farm to beef enterprise.
- iii. When the profit potential of an existing farm needs to be assessed either when tendering for a farm tenancy or for later use as a check on actual performance.

Complete budgeting helps farmers in the following ways:

1. To forecast future profits as precisely as possible. This means budgeting a profit and loss account for some future period.
2. To estimate the future capital needs of the business when seeking credit.
3. To assess future tax commitment
4. To set up and work a system of budgetary control
5. To compare the likely financial effects of a proposed large change with the present system. The latter is compared with alternatives and these with each other. The present system provides the basis for comparison.

Preparing a complete budget

Given the following information about a poultry enterprise whose main interest is on egg production, prepare a complete budget.

Egg Production:

- (a) Target = 100,000 dozen per annum
- (b) Bird Inventory
 - i. A bird produces 200 eggs per year, therefore, the number of birds required is 6,000.
 - ii. Total no of birds is 6000 + 20% allowance for mortality = 7,200

C. Capital Expenditure

- | | | |
|------|--|------------|
| i. | 2 Brooder houses for 3,300 birds each | ₦1,600,000 |
| ii. | 1 Deep litter for 2,000birds. | 1,200,000 |
| iii. | 2 Battery houses for 2,000 birds each | 2,400,000 |
| iv. | Equipment (Avery Scale, Trolley, grinder etc | 1,000,000 |
| v. | Installation of water | 600,000 |

vi.	Farm electrification	500,000
vii.	1 Pick up van (Transportation)	1,500,000
viii	1 Silo (500 ton capacity) and drying unit grains	1,200,000
ix.	Feed depot building	1,500,000
x.	Dryer	800,000
xi	Contingency	<u>1,230,000</u>
	Total	<u>N13,530,000</u>

(d) Annual Recurrent Expenditure

i.	7200 day -old chicks at N150each	₦ 1,080,000
ii.	Feed at 41.60kg per birds per annum at N36,000 per ton	8,985,600
iii.	Hired labour, 10men each at N2000 per month	240,000
iv.	Drugs and veterinary service.	200,000
v.	Interest on capital (12%)	200,000
vi.	Depreciation on building and equipment assume an average lifespan of 10 years	1,057,560
vii.	Maintenance and running cost of vehicles	550,000
viii.	Rent on 4ha, land at 100,000 per ha	<u>400,000</u>
	Total	<u>₦ 12,713,160</u>

Revenue

1.	Total egg production per annum, 100,000 dozen at 240 per dozen	24,000,000
11.	Culls, old layers 6,000 birds at 600 each	<u>3,600,000</u>
	Total	<u>27,600,000</u>

F Returns

Net return to management = 27,600,000 - 12,713,160 = 14,886,840

The farmer is now in possession of information about the expected return to be realized from the proposed poultry enterprise. He would now decide whether or not he is satisfied with the return of N14,886,840.

Partial budgeting

Managers and consultants often seek a quick way to assess the financial effect of a proposed change in policy or process in a basically satisfactory farm business where the overall farm organization is unchanged, Partial budgeting not only enables them to assess the effect of small changes, such as buying a sprayer instead of hiring one or adding a few more sows to the herd. It can be used also to assess the likely financial effect of fairly large changes such as disposal of a dairy herd and substituting beef and cash crops on the freed land.

Partial budgeting is a marginal analysis technique as it looks at the changes in costs and receipt, and thus net farm income, likely to result from a marginal change in farming system.

Partial budgeting simplified decision-making for many problems by giving the most precise possible forecast of the financial effect of a proposed change. This should present unprofitable changes being made and the budget also serves as a target against which to compare later performance.

It is important in Partial budgeting to be systematic, to head the budget clearly and to state clearly any assumptions made. Four basic questions must then be answered:

- i. What new costs would arise?
- ii. What former costs would be saved?
- iii. What former income would be lost?
- iv. What new income would arise?

Provided each question is answered, there should be few errors in the budget.

Example:

Table 2: Partial Budget to Estimate Net Gain from the substitution of one (1) hectare of cotton for one (1) hectare of Groundnut.

1. Items to be affected by the change.
 - a. loss of output of 1ha of groundnut
 - b. Extra returns from cotton output.
 - c. Savings on labour for making ridges for groundnut
 - d. Savings on seed cost for 1 ha of groundnut
 - e. Extra cost of cotton seed

f.	Extra cost of spraying 1 ha of cotton.	
2.	Items that would not be affected	
a.	Total cultivated land	
b.	Total capital equipment.	
3.	Estimated Gains(N)	
a.	Extra returns from cotton output	150,000
b.	Saving on groundnut seed cost	10,000
c.	Saving on labour cost for ridge -making	<u>40,000</u>
	Total	<u>200,000</u>
4.	Estimated costs (N)	
a.	On seed cotton	8,000
b.	On spraying	10,000
c.	On loss of groundnut output (1 ha)	<u>92,000</u>
	Total	<u>110,000</u>

Net Gain N200,000 - N110,000 = N90,000

The partial budget presented in Table 2 is typical of all budgets concerned with relatively small changes in the pattern of enterprises making up the farm system. The common feature of such changes is that they do not alter the fixed costs of land, and fixed capital. Only variable costs are affected by the change, Because of this, an alternative method - The gross margin approach can be used to find the effect of the change. The gross margin is obtained by subtracting the extra (variable) costs of cotton from the extra returns to give the gross margin for cotton, and by subtracting the saved (variable) costs of groundnut from the present groundnut income foregone to give the gross margin for groundnut as shown in Table 3.

Table 3: Gross margin approach for Estimating Gains and Costs for Substituting cotton for Groundnut production.

Gains(N)		Costs (N)	
Extra Production from		Groundnut Production	
Introducing cotton	150,000	Foregone	92,000
Seed	8,000	Less costs saved from seed	10,000
Spray	10,000	Less costs saved from labour	40,000
Gross Margin 150,000 - 18,000	132,000	Gross Margin 92,000-50,000	42,000

The net gain from substituting one hectare of cotton for one hectare of groundnuts is now the extra gross margin i.e $N132,000 - N42,000 = N90,000$. Consideration of the feasibility of the chance now suggests a way in which the plan can be selected on a more rotational basis

3.1.3 Advantages of Budgeting

Some of the several advantages of budgeting are:

1. Budgeting assists the farm manager to select factors of production more wisely. Once some fixed resources are invested in the farm business, budgeting can be used to test and compare returns from the whole farm and other added resources.
2. As a planning tool, budgeting causes the farm manager to think more accurately, plan more carefully and completely. Through the process of budgeting the farm manager refines his ideas and is better able to make more accurate decision.
3. Bankers favour men who have written plans. A well thought - out budget creates a good impression on people and also gives the impression of a careful scrutiny of one's production and finances.
4. A budget is a money saver because it is cheaper to make mistakes on paper than in practice.
5. Budgeting provides an excellent learning device for the student on how to organize and reorganize farms.
6. Lending agencies use budgeting process as a basis for appraising the farm business of their clients.
7. Budgeting helps a farm manager to determine when to borrow money and how much to borrow. It can also help him in setting up repayment schedules.
8. Budgeting makes it possible for one to discover certain items and therefore costs, that could be easily dropped.
9. Budgeting requires data of a less detailed nature and because of its simplicity and flexibility will always have a place in practical farm planning.

3.1.4 Limitation of budgeting

1. Budgeting in practice ignores diminishing marginal returns, constant average costs and returns being the generally used assumptions.
2. Forecasting future yields, prices and incomes are difficult.

3. It does not consider supplementary or complementarily between enterprises.
4. It is a trial and error method.

3.2 Gross Margin

3.2.1 Meaning and Scope of Gross Margin

Gross margin (GM) by definition is the difference between the gross farm income (GI) and the total variable costs (TVC) that is $GM = GI - TVC$ (Olukosi and Erhabor 1988) OR Gross margin is defined as Gross Return (GR) minus Total variable cost (TVC)

$$GM = GR - TVC \text{ (Opio et al 1989)}$$

According to Johnson (1990), Gross margin is the surplus or deficit remaining after variable costs have been deducted from value of production or gross income.

Gross margin (GM) is one of the most commonly used financial indicators in farm management. Gross margin is gross return after all variable costs have been accounted for, which means it is return on variable costs only, and does not include fixed costs. This means sequential analysis of various activities, so that all input requirements and costs incurred are determined. It requires complete farm records of various activities involved in the production of each enterprise.

3.2.2 Procedure for gross margin analysis

The procedure for gross margin analysis can conveniently be divided into a series of steps.

Step 1: Determine the enterprise on the farm for which gross margin calculating should be made, Define each enterprise output, and input requirements on per unit area (hectares or acres).

Step 2: Check all available records for accuracy consistency and completeness. Ensure that complete records on each enterprise, activity and production system are available.

Step 3: State all appropriate assumptions for each enterprise, defining all conditions in which each enterprise is produced, consumed and marketed. These assumptions should include production systems, input prices, seasonal changes, market prices, yields, and systems of measures.

Step 4: Determine iteratively all the labour input requirements for every activity under the given production system. Define the labour inputs per unit area in terms of “manhours” or “man-days”

Step 5: Determine iteratively all other variable input requirements for each activity and overall production period under the given production system. Make detailed valuation of all variable inputs to allow calculations for these activities.

Step 6: Determine all costs for variable inputs including hired or contract labour but excluding cost on permanent labour and fixed inputs.

Step 7: Determine subs totals for each activity and grand totals for the enterprise for labour inputs, variable inputs, input costs.

Step 8: Determine the results for the gross margin:

- Based on the yields and prices per unit, as stated in your assumption, and calculate the “gross return” (GR)
- Based on the variable costs per activity per unit area, add up all subtotals to obtain the total variable costs.
- Subtract the total variable costs (TVC) from the gross return (GR) to obtain Gross margin so, $\text{Gross margin/unit area} = (\text{GR} - \text{TVC})/\text{area}$.

Step 9: Determine the return to labour:

- Divide Gross margin by total labour input
- Compare this results with minimum rural wage in your country.

3.2.3 Uses of Gross Margin Analysis

Gross Margin (GM) can be used effectively to appraise and evaluate the performance of a farm business. All GM calculations must be checked very carefully for consistency, accuracy and representatives. Input values must be realistic, to represent the actual situation. Input costs and output prices must be based on current market prices.

A realistic gross margin analysis can be very useful. It may be used to:

1. Appraise the viability of each enterprises
2. Evaluate the performance of a farm business operation.
3. Provide useful information for (future) planning and budgeting.
4. Help make management decision e.g decision on what to produce, and what input levels to use are better using information from gross margin analysis and

5. Provide information for predicting future production levels.
6. Helps in building partial budgets for the farm.
7. Used to determine net farm income
8. Helps the farm manager to critically examine the variable cost component.
9. Easy to compute and interpret.
10. Serves as a guide to the selection of enterprises by comparing their margins.

4.0 Conclusion

In this unit, we have so far gotten acquainted with the meaning and scope of budgeting, gross margin, the procedure for conducting gross margin analysis and its usefulness in farming business.

5.0 Summary

Having gone through this unit, you should have learnt that:

- Budgeting is any attempt to estimate the future outcome of a plan in quantitative terms.
- A farm budget is a detailed physical and financial plan for the operation of a farm for a certain period.
- There are two major types of budgeting - complete and partial budgeting.
- Gross margin is the difference between total Revenue and Total variable (Cost $GM = TR - TVC$)
- The procedure for gross margin analysis can conveniently be divided into a series of nine steps.
- A realistic gross margin analysis is useful to the usually success of an enterprise and the farm as a whole.

6.0 Tutor -Marked Assignments

1. What is budgeting?
2. Explain farm budget?
3. What are the two major types of budgeting?
4. What are the strengths and weaknesses of budgeting?
5. Define and explain gross margin
6. State five uses of gross margin analysis.

7.0 References and other sources

Adesimi, A.A (1988): Farm Management Analysis with perspectives through the Development process. Chapter eight . pp 97-109.

Johnson, D.T (1990): The Business of Farming, A Guide to farm Business Management in the Tropics second edition, Macmillan Publishers pp 93-97.

Olukosi, J.O and P.O Erhabor (1988): Introduction to Farm Management Economics: Principles and Applications AGITAB Publisher Ltd, Zaria Chapter 8, pp 84-92.

MODULE TWO: FARM RECORDS AND ACCOUNTING

Unit 1: Methods of collecting Farm Management Information.

Unit 2: Farm Records

Unit 3: Balance sheet

Unit 4: Profit and Loss Account and the Cash flow statement.

Unit 5: Farm business Analysis.

Unit 1: Methods of collecting Farm Management Information

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Methods of collecting farm management information
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

The farming environment is dynamic-always changing. It faces changes in technology, prices, climate and institutions. These changes affect the performance of an enterprise or enterprises in a farm.

Production performance of a farm often varies from the targeted or planned levels. Here, farmer who can guide and use agricultural resources to their best advantage outperforms others. This simply means a successful farmer will be quick to choose the profitable enterprise and will raise the enterprise with efficient allocation of resources.

In order to carryout these tasks, a farmer needs the following information:

- Current and known new technological relationships in agricultural production.
- Source, quantity and time of inputs availability.
- Input and output prices
- Various agricultural supportive services and institutions etc.

Only systematic and accurate farm records can ensure that this information is available.

2.0 Objectives

It is expected that at the end of this unit, you should be able to state and explain the various methods of collecting farm management information.

3.0 The body

3.1 Methods of collecting farm management information.

There are two major methods of collecting farm management information:

1. Positive approach-Concerned with the objective of finding out facts about what the farmers are doing with respect to the operation and organization of the farms.
2. Normative approach - involves determining what farmers ought to do to improve their farm management practices. It is also concerned with how the farmers should make the required changes from the traditional to the improved system of farming.

There are three methods of collecting management information under the positive approach and these consists of : farm account books, farm business survey and cost route method.

Farm Account Books method relates to the use of records kept by the farmers themselves in the daily operation of their farm business. The use of farm Account Books for collecting farm management information is a widespread practice in advanced agriculture. The great advantages of this system of farm data collection derives from its relative cheapness and from its singular usefulness as an extension tools since farmers are likely to have more confidence in their own records than in the average computed from a sample of farmers.

The Farm Business Survey method is one in which the research enumerator visits the farmer a few times during the current crop season to complete structured questionnaire. Advantages of this method are; it is a very quick and comparatively inexpensive way of collecting data from a large sample of farmers and that it minimizes sampling error.

The Cost Route method as its name suggests aims at getting information on the farmer's activities as they occur everyday throughout the year. Such farmer is assigned an enumerator to record the farm management activities and transactions undertaken during the current crop year. The advantage of this method is that events are recorded as they occur and this prevents heavy reliance on the farmer's memory.

The two methods of collecting data based on normative approach are: Model Farm and the experimental demonstration plot method. The Model farm method studies the management practices of selected 'progressive' farmers in great details and presents the evidence as prototypes for the other farmers to adopt. The experimental demonstration plot approach is the collection and analysis of data from experimental or demonstration plots. The evidence of such analysis is then presented to farmers as a package of improved management practice which farmers should adopt.

4.0 Conclusion

We have learnt in this unit that farm records are important for the successful operation of a farm business enterprise.

5.0 Summary

You have learnt in this unit that:

- The farming environment is dynamic-always changing.
- Records are essential in any farm management operation.

- There are two major methods of collecting farm management information- positive approach and normative approach.
- Positive approach is concerned with finding out facts about what the farmers are doing with respect to the operation and organization of the farm.
- Normative approach involves determining what farmers ought to do to improve their farm management practices.

6.0 Tutor Marked Assignment

- (1) Assuming you are conducting a farm management research in Nigeria, what are the various types of information you will require to solve a particular farm problem.
- (2) Distinguish between Normative and positive approaches of collecting farm management information.

7.0: References and other sources

Adesimi, A.A (1988): Farm Management Analysis with perspective through the development process. PP 35-43.

Ekongocha, F.O and Jegasothy K (1989): “Managing a small-scale plantation”. Proceedings of a Training Workshop held on 11-15 September 1989 at USP Extension centre, port Vila, Vanautu. IRETA Publishers, Apia, Western Samoa, PP 7-19.

Unit 2: Farm Records

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Uses of Farm Records
 - 3.2 Types of Farm Records and their uses
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

Records are essential in any management operation. A good record keeping system will allow managers to monitor and evaluate the performance of their production systems. You will therefore learn in this unit the types and uses of farm records.

Farm records pertain to information recorded on the day-to-day operations of a particular farm. A complete farm records will include all daily activities and transactions and with a proper accounting system it should be possible to have a complete estimate of the profit or loss statement at the end of the year.

2.0 Objectives

It is expected that at the end of this unit, you should be able to state and explain the different types of records and their uses

3.0 The Body of the unit

3.1 Uses of Farm Records

The most common uses of farm records are:

1. To evaluate the performance of the farm over a given period.
2. To aid in decision making. This include decision as: what to produce, how much to produce, how to produce, to which market to produce and when to produce.
3. To provide basic information for farm planning and budgeting
4. To determine resource requirements, and examine farm resources commitments, including possibilities for credit and borrowings, credit repayments, etc.
5. To help review from time to time, the financial status (worthiness) of the farm, and make necessary adjustments.

When designing a record keeping system, it is important to keep few things in mind. First, records should be as simple as possible to minimize misunderstandings. Secondly, they should be kept in accessible place. Thirdly, transforming records from one sheet to another should be kept to a minimum, while ensuring that all the information are transferred.

3.2 Types of farm Records and their uses

1. Farm inventory Records

The farm inventory is a list of all that a farm owns and owes on a particular date, usually at the beginning and at the end of each production year. It has not only lists of physical assets but values of all assets, liabilities and debts.

There are two steps in taking a farm inventory:

1. Physical count of assets-It includes a complete listing of all physical assets, verifying weights and measurements as you go.
2. Value physical assets- After writing down the farm assets liabilities and debts, it is important to value them. Market value (costs) can be used to do this. Long lived assets e.g tractors and farm implements tend to wear out with use, So, when valuing these assets, these values must be depreciated.

2. Farm Production records

Production records are useful information on production and resources used by different enterprises. This is valuable in measuring production efficiency and preparing efficient alternations in farm plans. Farm production records include:

- i. Farm Map
- ii. Crop Production Records
- iii. Livestock Production Records
- iv. Physical input records e.g labour, seeds, fertilizer etc
- v. Family consumption records

The crop production records include:

- i. Crop inventory
- ii. Farm Machinery inventory
- iii. Farm Building inventory
- iv. Crop cultivation record
- v. Daily labour sheet
- vi. Comparative inventory of farm produce.
- vii. Record of farm produce consumed in the farm.

Animals production records are of value in culling non-productive breeding stock from the herd and in the selection of replacement of breeding animals. Indeed they are the starting point for overall herd records, Animal production records include:

- i. Reproduction record - Breeding and weaning records.
- ii. Health record - Health problems especially treatments used, success and failure of treatments, death losses and dates of losses.
- iii. Culling record - Date and reasons for culling.
- iv. Production Record - Weight at birth, three and eight weeks of age, litter size.
- v. Feed consumption.

3. Labour Record

Many small-holder and large farms in Nigeria today employ some hired labour either as part - time or permanent hands. Thus there is need to keep records of exactly how much is spent on hired labour for each enterprise on the farm in order to determine the relative share of each input in total production cost as well as to ascertain labour use efficiency. The types of information contained in the payroll record include the category of worker, the date of hire, type of work done, number of days worked, wage rate including payment in kind and the implements worked with

4. Farm Receipts Record

Whenever a payment is made, a receipt for that payment should be obtained. This is a proof of payment, and safeguards against any future false claims. Equally, when a farmer receives money for sale of farm produce or in settlement of a farm debt, he should issue a receipt. He should keep a copy of all receipts issued. A synthesis of all payments and receipts at the end of the year will provide an accurate picture of all expenditures and incomes by type for the year. This can be used in part to know whether the business is paying well or not.

It should be mentioned that the farm receipts record should contain not only market transactions such as buying and selling, it should furnish information on farmhousehold transactions as well. This is very important among small farmers since a lot of transactions take place between the two units. Such transaction include the amount of farm produce consumed by household. The farmer should realize that this is part of the farm income for the year it relates.

In essence, once the above -listed records and statements are available, proper farm analysis can be carried out by:

- i. Comparing past records with the present and look for progress in the business.
- ii. Comparing volume of production and cost of production.
- iii. Looking at areas where costs have risen and consider how they could be lowered.
- iv. Looking at level of debt repayment
- v. Identifying whether or not financing is required.
- vi. Identifying areas where problems have occurred in the past and where they will likely occur in the future.

This is what planning is all about, reviewing past performance and using the knowledge gained to make future endeavours easier and more successful. All of these analyses and more can be obtained with proper record keeping, but it has to start with accurate and up to date records, Record keeping is but one step in successful farm management.

iii. Farms records are useful in planning and budgeting, evaluating past performance of the operation, building a financial picture of the present situation and serves as a planning guide for future decision.

4.0 Conclusion

We have learnt in this unit the various types of farm records and their uses.

5.0 Summary

In this unit, you have learnt that:

- Records are essential in any management operation.
- Farm records pertain to information recorded on the day to day operations of a particular farm.
- Records should be as simple as possible to minimize misunderstandings, accessible and transferring of records from one sheet to another should be minimal.
- Types of records include among others: farm inventory records, farm production records, Labour record, Farm receipts record.

- The most common uses of farm records are to: evaluate the performance of the farm over a given period, aid in decision making, for planning and budgeting.

6.0 Tutor Marked Assignment

1. Enumerate special problems of keeping farm records in situations of subsistence agriculture. Suggests possible solution.
2. Why should you be concerned with keeping family living expense recorded in addition to strictly farm records?
3. Why should farmers keep farm Records?

7.0 References and other sources

Adesimi, A.A (1988): Farm Management Analysis with perspective through the development process. PP 38-42.

Ekongocha, F.O and Jegasothy K (1989): “Managing a small-scale plantation”. Proceedings of a Training Workshop held on 11-15 September 1989 at USP Extension centre, port Vila, Vanautu. IRETA Publishers, Apia, Western Samoa, PP 7-20.

Malcolm, L.R (2005): Meaning and Scope of farm Management Memorial lecture in memory of Jack Makeham the Pioneer of Farm Management in Australia AFBM Journal Volume 3, Number

Oluko si, J.O and Erhabor, P.O. (1988): “Introduction to farm Management Economics: Principles and Applications”, AGITAB Publishers Ltd, Zaria. PP 21-34.

Unit 3: Balance Sheet

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 The Balance sheet
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor marked Assignment
- 7.0 References and other sources

1.0 Introduction

A farmer who keeps records would benefit tremendously from putting them into standardized farm accounting format designed to facilitate interpretation of management efficiency and inter farm comparison. Making observations on the business and deriving information is one of the important roles of farm management. Farm accounting provides information to control money flow in the business, it provide information on financial “worthiness”, performance and monetary checking. In this unit, you will learn about one of the common forms of accounts which is the Balance sheet.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Estimate effectiveness of financial control and the worthiness of the farm business.
- Understand and explain the concepts of balance sheet.

3.0 The Body of the unit

3.1 The Balance sheet

The Balance sheet or the Networth statement (NWS) or a statement of financial position shows the capital position of the farm enterprise at a given point in time (usually at the end of the crop year) and is therefore a stock concept and consists of two parts:

1. Assets
2. Liabilities

Assets

An asset is anything of value owned by a business concern, Assets are items which the business owns or can use to acquire more items e.g cash, car, trolleys, building, machinery and land.

There are three classes of assets. They are current, intermediate (working) and fixed (long - term)

Current assets are also called liquid assets and are assets that are mostly easily converted into cash. They include cash, accounts receivable, inventory including grain and market livestock that will be converted into cash or consumed within approximately one year. Others include: fertilizer, herbicides, fuel, feed and other input assets associated with the agricultural production

Intermediate or working assets are those assets which are used up within the production process of the business. Intermediate assets or non-current assets or working assets are typically held and used for several years. They include the working assets such as the breeding stock, equipment and machinery used in the production of farm commodities. These assets generally have a life expectancy of more than one year and generally less than ten years.

Fixed or long-term assets are those assets which cannot be easily converted into cash to meet current obligations. Long term assets include those assets that have a useful life in excess of ten years and generally include assets such as land, buildings and other permanent improvements like, fences.

Liabilities

A liability is a claim against a farm business enterprise. Liabilities are those legitimate claims that can be made against a business, liabilities are claims made by others to the business or items that are used by the business but not owned by the business, Examples are: loans and credits, mortgage in farm, unpaid bills, notes payable, etc.

There are three classes of liabilities. They are: current, intermediate and long-term.

The current liabilities are due now or will come due within the year, current liabilities are loans deemed to be paid immediately, current liabilities are those obligations that are payable within a year. These payments when due demand the immediate attention of the farm manager. Current liabilities are general used to finance the production inputs.

Intermediate liabilities are those obligations that are deferred for the time being but which will be paid within a few years like five years or less, Examples of intermediate liabilities are promissory notes, obligation based on crop or livestock in the process of production and ready to mature within a few years. Intermediate liabilities are used to finance the working assets such as breeding livestock, equipment and machinery.

Long term liabilities are those that will not fall due for payment in a lump sum within a short period of time. They may fall due in a period of say, twenty years. Examples of long term liabilities are real estate mortgages and long term land leases.

These are not commonly used by subsistence farmers, long-term liabilities are used to finance the most permanent assets, such as land and buildings.

Assuming that all assets are owned by the business and the total liabilities (or claims) belong to somebody else, then for a business operation to function, the assets must equal liabilities. The two conditions should balance one another hence the term “balance sheet”

Balance Sheet Equation

Networth = Assets - Liabilities

Structure of the Balance Sheet

The structure of the balance sheet or Networth statement can vary but generally the assets are listed on the left hand side, with the current assets at the top, intermediate in the middle and long term at the bottom. Assets that are most easily converted into cash are listed at the top with less liquid assets located beneath in descending order of liquidity.

The liabilities are generally listed on the right-hand side of the report and are also divided into three categories: current, intermediate and long-term.

The net worth represents the difference in the value between the assets and the liabilities using the market value method, an incorporated business lists this equity (capital) under a number of different headings including the categories of capital shares, retained earnings and contributed surplus.

Format of the Balance Sheet

Date _____

Assets

Current:

Cash on hand and Deposit
Accounts Receivable
Grains and Forage
Market livestock
Investment in growing crops
Marketable securities
Other current assets
Total current Assets

Intermediate:

Machinery and Equipment
Breeding Stock
Other intermediate
Total Intermediate Asset

Long Term:

Land
Buildings
Non farm real estate
Other long term
Total long term assets

Total Assets

4.0 Conclusion

This unit you will agree with me has afforded you the opportunity to learn about the balance sheet.

Liabilities

Current:

Operating loans
Accounts payable
Cash advance payment
Accrued Interest
Current portion of intermediate Debts
Current portion of long term Debt

Total current liabilities

Intermediate:

Subtotal intermediate debts
Less current problem of intermediate debt
Total intermediate debts

Long term:

Sub total long-term debts
Less current portion of long term debts
Total long term debts

Total liabilities

Networth

Total liabilities + Networth

5.0 Summary

In this unit, you have learnt that:

- The balance sheet or the Networth statement or statement of the financial position show the capital position of the farm enterprise at a given point in time.
- An asset is anything of value owned by a business concern.
- A liability is a claim against a farm
- $\text{Networth} = \text{Assets} - \text{Liabilities}$

6.0 Tutor Marked Assignment

1. Define and explain the balance sheet
2. What are assets?
3. What are Liabilities?

7.0 References and other sources

Malcom, B (2004): Where's the economics? The core Discipline of farm management analysis has gone missing, Australian Journal of Agricultural and Resource Economics, 48:3.

Weibe, P.I (2006): Analyzing a farm business: A guide to help producers prepare, analyze and interpret farm business plans in order to make informed management decisions. Manitoba Agriculture and food plan. University of Manitoba press. PP 21-25.

Unit 4: Profits and Loss Account and the cash flow statement.

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 Profit and Loss Account
 - 3.2 Cash flow Statement
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor marked Assignment
- 7.0 References and other sources

1.0 Introduction

The ultimate aim of any producer is to maximize profit. Most managers are also interested in knowing how money comes in and how it is being spent. In this unit, you will be acquainted with profit and loss account and the Cash flow Statement.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Compute profit and loss account for a given farm
- Know the streams of income and expenditure into a farming enterprise on a monthly, quarterly or annual basis.

3.0 The Body of the unit

3.1 Profit and loss Account

Profit and loss Account otherwise called income statement, an income and expense statement is financial statement on the income and expense of a business over a period of time, called the accounting period. The accounting period for most farm businesses is the calendar year. The income statement measure the profitability of the business over the period and what it cost to produce. The difference between these two is called the net income, profit or loss for the period.

The format of the profit and loss Account is illustrated with an example.

It is customary to put purchases and expenses on the left hand side and sales and receipts on the right. The closing valuation is also on the left.

Mr Ojo's farm profit and loss Account as at December 31, 2006

Purchases and expenses		Sales and receipts	
Opening Valuation		Sheep	25,000
Sheep	25,000	Goat	28,800
Goat	41,000	Yams	20,000
Seed	4,000	Cocoa	45,000
Fertilizer	12,000	Maize	19,800
Cocoa trees	85,000	Melon	10,400
Sprays	3,500	Produce consumed	15,800
Maize	8,800	Miscellaneous receipts	<u>11,200</u>
Yam	5,400	Total receipts	<u>186,000</u>
Melon	<u>6,600</u>		
Total opening valuation	<u>191,300</u>	Closing valuation	
		Cocoa trees	100,000
Expenses		Sheep	30,000
Implements	4,500	Goat	48,000
Insecticides	2,500	Seed	3,200
Wages	10,100	Maize	14,000
Feeding-stuffs	4,400	Yam	3,300
Rent	5,000	Melon	7,700
Seeds and Fertilizers	21,000	Implements	<u>8,800</u>
Depreciation	50,000	Total closing valuation	<u>210,000</u>
Veterinary services and drugs	<u>7,200</u>		
Total Expenses	296,000		
Farm Profits	<u>100,000</u>		
	<u>396,000</u>		<u>396,000</u>

Net farm income refers to the 'bottom line' profit that is earned (or projected to earn) by the business during the accounting period, it represents the business return (calculated on an accrual basis) to the producer, labour management and capital. Net farm income is calculated by finding the depreciation for the period, and then making the

appropriate accrual adjustments to the cash income. The accrual adjustments include change to inventory and supplies, accounts payable and accounts receivable, and understanding it from the beginning to the end of the period. The Net farm income provides the answer to the question of how much profit the farm has made or is projected to make, in the business plan. The Net farm income must be large enough (unless there are other sources of income) to cover additional items such as the principal interest of the loan payments, income taxes, and a residual for savings or growth.

3.2 Cash Flow Statement

Of all the statements that comprise a farm business plan, the cash flow statement is often the most challenging one. On paper, this statement covers all aspects of farming, and to do a good job requires a considerable amount of time, thought and commitment. However, the time spent preparing this statement can also pay big dividends in charting the course towards a more profitable farm businesses.

The cash flow projection estimates the flow of revenue into the farm business and the flow of expenditures out of the business. These flows are important because they indicate when cash surpluses or deficiencies will occur.

The cash flow statement is especially helpful when:

- A new business or enterprise is under consideration
- The business is being expanded
- A significant change(s) in production is planned
- A start-up period is required to get into full production and
- A change in financial statements is being contemplated.

Cash flow statements can be prepared on an annual, quarterly or monthly basis.

Cash flow statement for a small farm - The format

Aug Sept Oct Nov Dec Jan Feb March April May

Cash inflows (N)

Opening Cash available

Maize

Yam

Groundnut

Tobacco

Sorghum

Orchard

Cassava

Total inflows

Cash out flow (N)

Seed fertilizer

Pesticides

Labour

Capital cost

Taxes

Family living

Livestock

Rents

Sundries

Total outflows

Monthly NCF

Cumulative NCF

4.0 Conclusion

This unit, you will agree with me, has afforded you the opportunity to learn about profit and loss Account and the Cash flow statement and prepare profit and loss Account and cash flow statement for a farm.

5.0 Summary

In this unit, we have learnt that:

- The income statement lists the income and expenses of a farm business over a period of time called the accounting period.
- The cash flow projection estimates the flow of revenue into the farm business and the flow of expenditures out of the business.

6.0 Tutor Marked Assignment

1. What is Net Farm Income?
2. What is the ultimate aim of any producer?
3. When is the Cash flow statement useful in a farming enterprise?

7.0 References and other Sources

Adesimi, A.A. (1988): Farm Management Analysis with perspectives through the development process.

Ekiogocha, F.O. and Jegasothy, K (1989): Managing a small scale plantation. Proceedings of a training workshop held on 11-15 September, 1989, at USP extension centre, port vila, vanautu, IRETA Publishers, APA, Western Samoa, PP33-39

Olukosi, J.O and Erhabor, P,O (1988): Introduction to farm Management Economics: Principles and Applications. AGITAB publishes LTD, Zaria, PP 48-61.

Weibe, P.I (2006): Analyzing a farm Business: A guide to help producers prepare, analyze and interpret farm business plans. Manitoba Agriculture and food farm plan. University of Maniloba press.

Unit 5.0: Farm Business Analysis

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 Liquidity
 - 3.2 Solvency
 - 3.3 Profitability
 - 3.4 Efficiency
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

There is a great emphasis today on record keeping on the farm. This emphasis is correct. Many farmers presently in financial difficulties could have avoided some of these difficulties if they had records to consult. The purpose of keeping records is not just to accumulate masses of information. It is to use this information to compare and discern trends in the farm business. These trends help farmers make sensible managerial decisions: Is this enterprise profitable? Or can I afford to purchase a new tractor? Or should I change my enterprise mix?. Records are useful only if they are used. Simply keeping them is not sufficient.

In this unit, you will see how records are used to analyze a farm business. Just as a doctor examines our symptoms to judge our overall health, we can look at the records of a business and assess its financial health, both now and to some extent in the future. This financial assessment shows how the business has been doing and how we think it will do in the future. It is obviously too late to correct what has happened in the past. But we can make decision on past trends and steer the business towards our financial objectives.

This procedure is similar to a doctor telling us we have been gaining weight and suggesting a diet and exercise to steer us towards a better weight in the future.

2.0 Objectives

It is expected that at the end of this unit, you should be able to carry out an analysis of the farm business performance using certain indicators.

3.0 The body of the Unit

Farm Business examination entails the use of various ratios and indicators taken from the financial statements. The most useful of these tools is to illustrate trends over time. One year's (or one time period's) figures by themselves have limited use. A series of these figures over time shows where the business is heading towards and helps us make decision to alter course. These are four basic categories of analysis and these are: liquidity, solvency, profitability and efficiency.

3.1 Liquidity

Liquidity is a short-term concept and shows a firm's ability to meet debts when they become due, without disrupting normal operations. There are four main indicators

of liquidity: the current ratio, working capital, the debt structure ratio and the quick ratio. Liquidity indicators are found in the balance sheet.

i. Current Ratio

One of the most useful indicator of liquidity is the current ratio which is current assets over current liabilities i.e

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Agricultural lenders generally like a current ratio of at least 2:1. If the ratio is 1.1, then the firm is barely liquid, and if the ratio is less than this, then the firm has liquidity problems.

ii. Working capital

A second liquidity guide is working capital that is current assets minus current liabilities. Working capital shows what is available after meeting debts due. Obviously, we need a positive figure, otherwise the firm is illiquid. A rough guide is that working capital should be close to expected net farm income. Otherwise, we may not be making sufficient investment in the farm.

iii. Debt structure Ratio

A third liquidity guide, debt structure ratio illustrates the debt structure of the firm. This ratio is calculated by dividing current liabilities by total liabilities.

$$\text{Debt structure ratio} = \frac{\text{Current liabilities}}{\text{Total liabilities}}$$

A ratio of 0.6:1 (often written as 0.6) means that 60 percent of the total farm debt is due the following year. If total debt is small, there is nothing to worry about. But most farms have considerable debt loads, and a debt structure ratio of 0.6 shows that too much of the farm debt is current. In general, a ratio of 0.2 or less is safe and 0.5 or more is dangerous.

iv. Quick Ratio

The fourth and final liquidity ratio is the quick or acid test ratio. This essentially revamps the current ratio by taking out non cash current asset items, including inventory in crops, livestock and supplies plus cash invested in growing crops and dividing this numerator by current liabilities, i.e.

$$\text{Quick Ratio} = \frac{\text{Current assets} - \text{inventory, supplies, growing crops}}{\text{Current liabilities}}$$

The remaining assets are cash, marketable securities, and accounts receivable. If these assets are sufficient to cover all current liabilities, the farm is decidedly liquid. However, on most farms which already have a healthy current ratio, a quick ratio around 0.5:1 is probably reasonable. A ratio of less than 0.3:1 usually means that the farmer has a lot of inventory and will have to take current market prices in any forced sale.

2. Solvency

Solvency is a long-range concept which shows the firm's ability to meet all debts when assets are sold. Solvency indicators are found in the balance sheet. The main indicators are networth, the leverage ratio and the solvency ratio.

i. Networth

As assets minus debt equal networth, we are obviously looking for a positive figure. A negative networth shows insolvency. So the basic solvency indicator is net worth, $\text{Networth} = \text{Total Assets} - \text{Total liabilities}$.

ii. Leverage Ratio

The leverage ratio is another solvency indicator. This ratio is calculated by dividing total debts by networth. Most lenders do not want to see leverage ratios over 1.5:1. This means that there is N1.50 of debt for every N1 of net worth. The higher the ratio, the more risk the firm faces and conversely, the lower the ratio, the lower the risk. However, many young farmers need ratios over 4:1 if they are to obtain sufficient capital to farm.

$$\text{Leverage Ratio} = \frac{\text{Total Debt}}{\text{Networth}}$$

ii. Solvency Ratio

A third guide to business solvency is the solvency ratio found by dividing total debt by total assets.

$$\text{Solvency} = \frac{\text{Total debt}}{\text{Total assets}}$$

The higher the ratio, the more debt there is for each Naira of assets. Solvency covers the long-range aspects of the business.

3. Profitability

Three main indicators of profitability are shown directly in the income statement and these are: Net farm income, off - farm income and Net Income.

1. Net Farm Income = Total farm Revenue - Total farm cost

Net Farm Income refers to the 'Bottom line' profit that is earned (or projected to earn) by the business during the accounting period.

ii. Off-farm income comes from non-farm jobs and custom work on other farms

iii. Net income is net farm income plus off -farm income minus all income taxes and social security payments due on these income sources.

Net income shows what is available to pay for principal on past debts, new farm investments, family off-farm investments such as retirement funds, stocks, mutual funds etc, Net income is the real bottom line of a business and is the single most important indicator of profitability.

Ratio indicators

The remaining measures of profitability are all ratios. These are return on assets, return on equity, growth in networth and the profit margin ratio

1. Return on Assets (ROA)

It is a measure of profitability, measuring the rate of return that the farm business earns on its average asset over the period, the higher the return, the more profitable the farm business

$$\text{Return on Asset} = \frac{\text{Net farm income} + \text{interest expense} - \text{labour}}{\text{Total farm Assets (average)}} \times 100$$

11 Return on Equity (ROE)

It is a measure of the return to the networth (equity) in the business. The farm equity is the capital that could be invested elsewhere (if you are not farming) and so this analysis provides an interesting perspective to see just how good a return you are receiving on your investment in farming as compared to other alternatives

$$\text{Return on equity} = \frac{\text{Net farm income} - \text{labour}}{\text{Farm equity (average)}} \times 100$$

111 Expense /Return Ratio

Shows the percentage of the farm income that is required to cover the operating expenses, excluding the principal and interest payments.

$$\text{Expenses / Return Ratio} = \frac{\text{operating expenses}}{\text{Value of farm production}} \times 100$$

The value of farm production is the total value of farm sales less the cost of purchased feeds, grain and market livestock.

All these profitability measurements provide information on how well the business is doing, but they do not show whether the resources are used efficiently. This is where the final set of indicators comes in.

4. Efficiency

Efficiency basically measures the relationship between inputs and outputs. They can be divided into physical and financial measurements. As some of the financial indices include markets prices, the efficiency measurements cover the producing, marketing and financing tasks of the business.

1. Physical measures

Some of the commonly used physical measures are: yield per hectare, yield per animal in terms of births, conceptions, outputs and herd life; kilogramme of feed per kilogramme of live-weight gain and other conversions factors. These figures come from the basic physical records of the business.

ii. Financial Measures

The financial measures of efficiency are all ratios and these include: the operation ratios, the debt service ratio and the times interest earned ratio.

4.0 Conclusion

In this unit, you have learnt about farm business analysis.

5.0 Summary

You have learnt in this unit that farm Business analysis can be carried out using the following four major indicators:

- Liquidity
- Solvency
- Profitability

- Efficiency

6.0 Tutor Marked Assignment

1. To what extent is it true that a farm business may be liquid and not be solvent?
2. What do you understand by efficiency?
3. What measures of efficiency would you use for a (i) livestock enterprise (ii) crop enterprise?
4. Of what use is the acid test ratio in farm management?

7.0 References and other sources

Blockland, P.J.V. (2003): "Farm Business Analysis: key to Pennsylvania Farm Profitability". Extension circular, 375, College of Agricultural Sciences cooperation Extension, University of Florida.

MODULE 3: ACQUISITION AND USE OF FARM RESOURCES - LAND, LABOUR, CAPITAL AND MANAGEMENT.

Unit 1: Meaning and scope of farm Resources

Unit 2: Method of Acquiring Farm Resources

Unit 3: Various uses of farm resources

Unit 4: Resource - use efficiency

Unit 5: Management of farm resources

Unit 1: Meaning and scope of farm resources

1.0 Introduction

2.0 Objectives

3.0 The Body of the unit

3.1 Meaning and scope of farm Resources

3.2 Rewards for using farm Resources

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 References and other sources

1.0 Introduction

A farmer needs to know not only how to cultivate his crops and tend his livestock but also how to manage his farm and the farm resources at his disposal. In this unit, you will get more acquainted with what farm resources are how they are acquired and used in the most efficient manner.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Explain farm Resources
- State the rewards for using the different Farm resources.

3.0 The body of the unit

3.1 Meaning and scope of farm Resources

Resources are often called factors of production, Resource traditionally and conveniently are classified by economists into four main groups-natural resources (sometimes simply called land), labour, capital and management. The term “resources” is used to refer to those means available for producing goods and services.

Land is defined as the original and indestructible property of the earth. It is the free gift of nature. The definition of land includes water, sunshine, air and indeed, all the soil nutrients that make plants to grow.

Labour is defined as the human effort used in the production process. Labour could be provided by human beings, machines or animals.

Capital, to the ordinary man in the street means money. This is not strictly correct even though the farmer needs money to purchase capital items. Capital can be defined as anything produced which is used to increase the effectiveness of current productive activity that is not immediately consumed.

Management, although not a physical resource is conventionally considered as the fourth factor of production. It is defined as the ability to use effectively the resources of land, labour and capital. Management coordinates all other factors of production in order to achieve the laid down objectives of the farm.

3.2 The Rewards for using Factors of production (Farm Resources)

The rewards for using the different farm resources are stated below:

1. Land - Rent
2. Labour - Salaries and Wages
3. Capital - Interest
4. Management/Entrepreneur - Profit

The reward for using land is rent. Rent can be paid in cash or in kind by using farm produce. Rent can also be paid annually, seasonally etc based on the agreed terms.

The reward for using labour is salaries and wages. It is salaries for those who are on the payroll that receives monthly salaries and wages for the casual labour.

The reward for using capital is interest. The rate of interest charged depends on the source of the capital. For example, professional money lenders do charge cut throat interest rates, commercial banks do charge high interest rate almost 30% administrative and management charges inclusive whereas credit and thrift cooperative societies do charge low interest rate of about 8%.

The reward for using management/entrepreneur is profit. This is so because the ultimate aim of any producer is to maximize profit. Here the principles of “carrot and stick” holds. If a manager performs well, he is given a carrot in form of a pat on the back for a job well done or promotion or an award and in the contrary if he fails by recording a loss or poor performance, he is given a “Stick” in form of query, dismissal, warning or demotion.

4.0 Conclusion

We have learnt that Farm Resources are factors of production which include land, labour, capital and entrepreneur (management). The various types of farm resources, the rewards for using them have also been discussed.

5.0 Summary

In this unit you have learnt that:

- Resources are often called factors of production.
- The factors of production are land, labour, capital and entrepreneur (Management)
- The reward for using:

Land is rent

Labour is wages and salaries

Capital is interest

Management/entrepreneur is profit.

6.0 Tutor Marked Assignment

1. State and explain farm resources
2. What are the rewards for using land, labour, capital and entrepreneur.
3. To what extent is it true/correct that land is a fixed factor of production.

7.0 References and other sources

Upton M and Q.B.O Anthonio (1970): Farming As a Business Second Edition, Oxford University Press pp 1-4.

Olukosi J.O and Erhabor P.O (1988): Introduction to farm Management Economics: Principles and Application, AGITAB Publishers Ltd, Zaria Chapter 4, PP 35-36.

Johnson, D.T. (1990): The Business of Farming: A Guide to Farm Business Management in the Tropics. Second Edition, chapter 3 pp 32 - 33.

Unit 2: Methods of Acquiring Farm Resources

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 Methods of acquiring land
 - 3.2 Method of acquiring labour
 - 3.3 Methods of acquiring capital
 - 3.4 Methods of acquiring entrepreneur
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

The method of acquiring farm resources determines the cost of acquiring them. In this unit attempts will be made to explain the various methods of acquiring farm resources and the associated cost implications.

2.0 Objectives

It is hoped that, at the end of this unit you will be able to state and discuss the various methods of acquiring farm resources.

3.0 The Body

3.1 Methods of acquiring land

Acquiring land for farming purposes in some subsistence farming communities could be a simple procedure of requesting permission from the village or clan head. Some pieces of land are acquired through inheritance passed from one generation to another while others are either bought or rented. As agriculture becomes more commercial, a shift from communal to private ownership is gradually emerging. Land could also be acquired through gift. Additional land can be acquired through land reclamation of water logged areas through appropriate drainage. Land is measured in hectares or acres

3.2 Methods of Acquiring labour

Labour is however, supplied partly by the family members while the rest is supplied by hiring labour at current wage rate. Except on big commercial farms labour is not hired on a permanent basis because the minimum wage rate which may have to be paid to the labourers may be too high for the farm business. Labour can also be acquired through sharecropping, under this system a farmer makes another man responsible for a particular crops, which the latter cultivates and harvests. He is not paid a wage but is allowed to keep a share of the crop yield. The share is a previously agreed proportion of the total crop, often a half. The other part goes to the owner. In addition, labour can be acquired through communal effort.

3.3 Methods of acquiring capital

Many farmers seem to think, that the only way they can get capital is by borrowing. They forget that they could save the necessary money or even make capital themselves. It should be remembered that capital which is borrowed must have been

saved by someone else. Capital can be acquired by savings, borrowing from formal or informal sources. Formal sources include banks, Government organization, cooperative societies. Informal sources include friends, neighbours, relations, husbands and wives etc. The advantages of obtaining capital from the formal sources include among others: They are reliable and dependable and large amount of money can be obtained as loan, Nonetheless, the application and granting of loan procedure is very cumbersome. In addition, the interest rate is relatively high. The advantages of obtaining capital/credit from the informal sources is that little or no interest rate is charged and also there is little or no bureaucratic procedure. Nonetheless, the amount of loan that can be obtained from this source is very small. Also repayment rate is low due to high rate of default since no collateral is required. Granting of loan is more or less on personal interaction and connection and “man-know-man basis”

3.4 Methods of Acquiring management

Management can be acquired through the selection/recruitment process. Managers may be hired on full-time or part-time basis. The recruitment process entails determining the number of vacancies, placing advertisement in the media stating the vacant positions and the pre-requisites for qualification, closing dates for advertisements shortlisting, interview, final selection and trainings.

4.0 Conclusion

This unit, you will agree with me has afforded you the opportunity to learn about methods of acquiring farm resources. You should be in the position to be able to discuss freely the various methods of acquiring land, labour, capital and management.

5.0 Summary

In this unit, we have learnt that:

- Land could be acquired through direct purchase, gift, inheritance and leasing.
- Labour could be acquired through family (family labour) hiring (hired labour), community (communal labour) and through exchange.
- Capital could be acquired through formal and informal sources.
- Management could be acquired through selection process either on permanent basis on a contract basis

6.0 Tutor Marked Assignment

1. List and explain the various methods of acquiring land.
2. Why do most small scale farmers find it difficult to obtain loan from commercial banks?

7.0 References

Adesimi, A.A (1988): Farm Management Analysis with perspective through the Development Process. Pp 1-8.

David T. Johnson (1990): The Business of farming: A Guide to Farm Business Management in the Topics, Second Edition; Macmillian Publishers PP 31-35.

Giles T and M. Stansfield (1990): The Farmer as Manager. CAB, International Publishers, Second Edition pp 173-198.

Unit 3: Uses of Farm Resources

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The Body of the unit
 - 3.1 Uses of Land
 - 3.2 Uses of Labour
 - 3.3 Uses of Capital
 - 3.4 Uses of Management
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

The farm is a production subsystem in an economy and normally identified as a business venture. The Problem of limited resources is the central issue in any economic analysis. Since resources are limited or scarce, available resources must be allocated in the most efficient way.

2.0 Objectives

It is hoped that at the end of this unit, you should be able to state and explain the various uses of land, labour, capital and management.

3.0 The body

3.1 Uses of Land

Land is different from other resources in that it cannot be created by man. Its qualities have been called “the original and indestructible powers of the soil”, Land can be used for production of crops and animals including fisheries and forestry.

3.2 Uses of Labour

The resources called labour is the work done by human beings and not the persons themselves, when a farmer hires a labour he is buying only so many hours of work and not the man himself. To get the best out of workers they must be treated as individuals and their welfare considered. Good labour relations are necessary.

Labour can be used on the farm for various farm operations such as planting, harvesting, weeding, clearing etc or they may be used to operate farm machines.

3.3 Uses of capital

Capital is made up of things which have been produced but are not yet used up. Capital includes not only buildings and machinery, roads and footpaths but also drainage ditches, terraces, growing crops, animals, stocks of seed and so on. It should be clear that with extra capital almost any farmer could earn more profit for himself. In fact, we can say that it is impossible to start farming or to improve a farm without some capital. If a farmer wants to grow a few more hectares of cocoa or keep a few poultry he will need capital - or a supply of money to buy it.

3.4 Uses of Management

Management is used for planning, organizing, directing and controlling all the activities of a farm in order to achieve the laid down aims and objective of the farm.

In Management, planning is the establishment of organizational goals and a strategy for accomplishing them. Plans made will usually be concerned with the short, medium and long term goals of the organization. Once the goals and strategies have been set, organizing function makes things proceed as planned, organizing is therefore an operational function which depends heavily on the coordinated efforts of entire organization. Management directs the operations to achieve desired goals through motivation. Management seeks to obtain a high level of production from the employees through motivation and proper guidance by maintaining a high level of cooperation.

Control function deals with the supervision of the achievement of goals and compares actual results with those envisaged in the plans and the actual performances in past periods. The results are directly examined and related to the plans and performance standards established by other managerial functions.

Decision making is the most important responsibility of a manager. The manager is charged with the responsibility of providing answers to the following questions: What to produce, when to produce, how to produce and for whom to produce.

4.0 Conclusion

Farm Resources have different uses. They needed to be used effectively so as to achieve the laid down aims and objectives of the organization.

5.0 Summary

In this unit, we have learnt that:

- Land is used mainly for the production of crops, livestock, fisheries and forestry.
- Labour is used for carrying out farm operations such as planting, weeding, harvesting etc and for operating farm machines.
- Capital is used to finance farm activities.
- Management is used to plan, organize, supervise coordinate and control activities on the farm so as to achieve the laid down aims and objective of the farm.

6.0 Tutor Marked Assignments

1. State and explain five functions of the manager.
2. Of what use is capital to a farming enterprise?

7.0 References

Turner, J and Taylor, M (1989): Applied Farm Management BSP Professional Books, Oxford. Chapter 1.

Unit 4: Resource use efficiency

1.0 Introduction

2.0 Objectives

3.0 The Body of the unit

3.1 Resource Productivity

3.2 Production efficiency

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 References and other sources

1.0 Introduction

The production process is one whereby some goods and services called inputs are transformed into other goods and services called output. Farm resources can be organized into a farm-firm or production unit whose ultimate objectives may be profit maximization, output maximization, cost minimization or maximization of satisfaction or a combination of all of these goals of enterprises

2.0 Objectives

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

- Define what productivity is
- State the three types of efficiencies.
- Differentiate between technical and allocative efficiency

3.0 The Body

3.1 Resource Productivity

Productivity could be described within the context of the relationship between the factor of production and output obtained from the use of such resources. Agricultural productivity may be defined as the index of the ratio of the value of total output Q to be value of total input R , used in farm production (Olayide and Heady, 1982). The input - output process of farm production is important in at least four areas namely: distribution of incomes, allocation of resources, relationship between stocks and flow and the measurement of efficiency or productivity.

Productivity is used to measure rate of technical change in production (Chamber, 1988). Productivity can be conceptualized as two main components: partial factor productivity and total factor productivity. Partial factor productivity also called average product is defined as the ratio of output to a specific input. Let Y be denoted as output. Then X_i as an individual input factor. Then, partial productivity of input of X_i (AP_i) is $AP_i = Y/x_i$

Partial factor productivity only measures the contributions of one particular input to technical change ignoring the effect from other input factors.

Total factor productivity (TFP) is defined as the average product of all input factors. It is the ratio of output to an index of input. Let X denote the index of all input, then TFP

is $TFP = Y/X$

$$Y/\sum x_i$$

Where i is the weight of input X_i . TFP can be calculated by estimating aggregate production functions or cost function with limited functional forms and imposed restrictions in economic parameters.

Resource productivity, which is the ratio of total output to resource (inputs) is optimum when there is efficient utilization of the resources in the production process (Ojo, 2000).

The relevance of resource productivity can be summarized as follows:

1. It serves as a guide to adjustment of resources.
2. It is used to find ways of increasing output per unit area of input and of attaining desirable inter-firm, intra-firm and inter sector transfers of production resources.
3. It provides a framework for formulating and evaluating agricultural policies.
4. It indicates problem area that need further research.

3.2 Production efficiency

Production efficiency is concerned with the relative performance of the process used in transforming inputs into output. The concept of efficiency goes back to the pioneering work of Farrel (1957) who distinguished between three types of efficiencies: Technical Efficiency (TE), Allocative or price efficiency (AE) and Economic efficiency (EE).

Technical efficiency in production is the physical ratio of product output to the factor input, the greater the ratio, the greater the magnitude of technical efficiency.

Allocative efficiency is concerned with choosing optimal sets of inputs. A firm is allocatively efficient when production occurs at a point where the marginal value product is equal to the marginal factor cost.

Economic efficiency is a situation, where there are both technical and allocative efficiencies. The simultaneous achievements of both efficient condition according to Heady (1952) occurs when price relationship are employed to denote maximum profits for the firm or when choice indicators are employed to denote the maximization of other economic objectives. So, economic efficiency refers to the choice of the best

combination for a particular level of output which is determined by both input and output prices.

There are factors, which influence resource use efficiency. Many empirical investigations on the relationship between output and inputs in agricultural production have shown that increased agricultural production in Nigeria is constrained by low productivity and inefficient use of resources (Osoba 1995, Afolabi et al 2003). Of all the economic factors of agricultural production, land, farm size and labour have been identified as the most limiting factors. Imoudu (1992) showed that farm size and labour had significant impact on farmers output of maize and that increasing their use would lead to significant increase in output. Battese and Coelli (1992) reported that year of formal schooling has a negative effect on inefficiency of the farmers. Ajibetun et al (2002) revealed that the technical inefficiency of the farmers increases with age of the farmer and that farming experience, level of education, size of farm holdings significantly influence technical efficiency of the farmers. Farm distance was also found to have effect on productivity of farmers. Ojo (2004) found that the elasticity of farm distance was in the decreasing negative returns to the factor implying that the farther the farm to the farmers place of settlement the more distance the farmers and workers have to cover and this would reduce their productivities.

Recently a mathematical programming approach such as Data Envelopment Analysis (DEA) was developed to measure technical efficiency by comparing the individual firm's production to the best practice frontier (Selford and Thrall, 1990).

4.0 Conclusion

Economic efficiency is a situation where there are both technical and allocative efficiencies.

5.0 Summary

In this unit, we have learnt that:

- The production process is one whereby some goods and services called inputs are transformed into other goods and services called output.
- Resource productivity is the ratio of total output to inputs
- There are three types of efficiency
 - Technical, allocative and economic efficiency.

6.0 Tutor Marked Assignment

1. State and explain the concept of economic efficiency.
2. State the importance of resources productivity in national economic development.

7.0 References and other sources

Battese G.E and T.J Coelli (1995): Frontier production function, technical efficiency and panel data with application to paddy farmers in India. *Emperical Economics* 20:325-332

Coelli, T.J. (1994): A Guide to frontier 4.2: “A computer programme for stochastic frontier production and cost function estimation” Department of Econometric, University of England, Armidate, NSW 2351, Australia.

Farell, M.J. (1957): The measurement of Productive efficiency. *Journal of the Royal Statistical society. ACXX* part 3:253-290.

Heady, E.O (1952): *Economics of Agricultural production and Resources - use*. Prentice Hall New Jersey.

Ojo, S.O (2000): Factor Productivity in maize production in Ondo State, Nigeria. *Applied Tropical Agriculture* Vol 5 No 1 pp 57-63.

Ogundari K and S.O Ojo (2005): Determinants of Technical Efficiency in Mixed - crop food production in Nigeria. A stochastic parametric Approach. *Applied Tropical Agriculture* Vol 10, Special issue 1.

Ogundele, O.O and V.O Okoruwa (2006): Technical Efficiency Differentials in Rice Production Technologies in Nigeria. Research paper No 154, African Economic Research Consortium, Nairobi Kenya.

Unit 5: Management of Farm Resources

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Management of land
 - 3.2 Management of Labour
 - 3.3 Management of capital
 - 3.4 Management of the manager
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignments
- 7.0 References and other sources

1.0 Introduction

The ability of a society or a producer to organize and allocate resources efficiently depends on their management capacity. So, management is concerned with decision making. Like in any business venture, the farmer is the manager of a farm business and he decides how best to use his limited resources.

2.0 Objectives

It is expected that at the end of this unit, you will be able to state the most efficient ways of managing land, labour capital and the manager in order to achieve the laid down aims and objectives of the farming organization.

3.0 The body

3.1 Management of Land

Continuous growing of one crop (monoculture) soon reduces the supply of plant nutrients in the soil. In other words, soil fertility falls unless plant nutrients are added to the soil either by fallowing or by using fertilizers and manures.

In some areas land has been exploited and large profits have been made quickly by continuous monoculture. Soil conservation and maintenance of soil fertility add to a farmer's costs of production, Nevertheless these costs cannot be avoided if the farmer wants to go on earning profits from his land for many years.

In many villages the land is shared out so that each farmer has some good land and some poorer land, some upland and some river valley land, some land suitable for tree crops some land suitable for vegetables. This may be a fair system but it often means that each farmer has several small plots scattered in different parts of the village farming area, small scattered plots are not suitable when machinery is to be used and are wasteful of labour, much time may be spent unproductively in travelling from one plot to another. Tools, seeds and harvested crops must be carried a long way back to the house, It is also difficult for the farmer to supervise the labourers' work on his crops, It is difficult for him to see that the plants are growing well and not being damaged by animals, insects and diseases or stolen by thieves. It would be much better if each farmer had his farm in one single unit and built his house on it so that he could live there.

For agricultural improvement and mechanization, it is important to have larger holdings all in one place. Farmers can often do a great deal to improve the situation. If

they all agree to cooperate, the land can be re-allocated on a planned basis. Such farmer must give up his present scattered holdings and receive in exchange land in one piece amounting to the same area but properly laid out. This reallocation of land is known as “land consolidation”.

When land is limited in supply, it is advisable to:

1. Grow more profitable crops - This is an application of the principle of comparative advantage. If land is the limiting resource, produce as much as possible of the crop which will give the highest gross margin per hectare.
2. Practice multiple cropping - Throughout the tropics, inter-cropping is practiced. Besides inter-cropping, many farmers grow more than one crop during the year. An early crop is grown and this is followed by a late crop. This kind of multiple cropping also leads to a higher total production per hectare than a single crop does, although each individual crop may yield less per year.

When multiple cropping is practiced the crops are supplementary to each other in the use of land.

3. Keep livestock - The value of livestock products -meat, milk and eggs is usually greater than the cost of the food the stock eat if they are well managed. For this reason, a farmer can earn more money by feeding his crops to livestock and selling their products than he can by selling the crops directly. The manures produced by the livestock can be used to increase soil fertility so that crop yields are raised.

3.2 Management of Labour

To get the best out of workers they must be treated as individuals and their welfare considered. Good labour relations are necessary.

In case of family labour, the farmer’s family should get enough of the right kind of food. The farmer should be prepared to buy or else to produce enough of the right kind of foods for his family. At the same time, he must spend money for medical attention to keep them fit and well. Furthermore, a farmer should not work his family too hard. It is important to have time for other activities. In particular, the children need time for education. The farmer himself should try to find some spare time for sitting down and working out plans for his farm. Time is also necessary for eating and sleeping.

In case of hired labour, labour may be hired on a permanent basis as full time regular labour, or in a temporary basis as part-time or casual labour. It is usually more convenient and cheaper in the long run to hire workers when they are needed at busy times of the year. Temporary labourers may be paid a daily wage or they may be paid according to the amount of work done, when it is known as piece work.

Some government make laws stating the minimum wage rates which must be paid to hired labourers, where this is not the case, wages must be decided by the farmer bargaining with the workers or their trade unions. Similarly, the proportion of the crop received by the sharecropper must be decided by bargaining.

The following are ways in which the gross margin per man-hour can be increased.

- i. Produce more per hectare
- ii. Choose the right enterprises to produce.
- iii. Improve farm layout
- iv. Use improved tools and working methods
- v. Keep good labour relations
- vi. Pay wages in relation to the amount and quality of the work done.

3.3 Management of capital

Capital is made up of things which have been produced but are not yet used up. Of course everything gets used up or worn out eventually, but capital is normally being replaced all the time, when a hoe is useless a new one is brought; when a laying hen dies it is replaced, capital is always limited. It should therefore be used where it will add most profit. In planning what to do with available supplies of this resource the farmer should choose the plan which is likely to give the highest gross margin. On some farms, capital is limited and the farmer cannot acquire more. In such a case annual arable crops are the most suitable enterprises since they produce quick returns and require very little capital. Tree crops and livestock often take several year to reach productive age. During this period labour and money must be spent on them so that they will develop well. But since nothing is being produced for sale, there is no money coming in to pay the costs. The farmer who wants to produce tree crops or livestock such as pigs or dairy cows needs capital to live on while the trees or stock are growing. The purchase of livestock and the necessary buildings and equipment also requires capital savings. The young man who is

just starting farming is often very short of capital. He may have to grow arable crops for some years before he can afford to start growing tree crops or keeping livestock.

For capital in tree crops, it is important to take good care of the trees and control disease and pests. If this is not done, trees may die quickly and depreciation is therefore high for capital in livestock, in order to keep the rate of depreciation low it is important to take care that the livestock are fit and healthy.

For capital in buildings, careful repair and maintenance of building will make them last longer and will therefore reduce the depreciation cost. It is often possible to hire buildings to avoid the capital costs of purchase. For capital in machinery and equipment, it is worth spending time and effort on careful repair and maintenance because this will make the equipment last longer. Machines should be kept oiled and greased and all equipment should be kept clean and in good repair.

3.4 Management of Managers

The style, effectiveness and outward image of any organization is fashioned more by the influence of the person or persons in charge than by anything else. Good planning, good decisions and good control pay dividends in the effectiveness of day-to-day operations. Every manager should remind him or herself from time to time that he or she is part and parcel of the farm's resources and not something apart from the land, the capital and staff. If we are to draw the best out of ourselves in the interest of the organization that we manage, some understanding of our own capabilities and limitations, our aspirations and our fears will be an essential part of the process.

4.0 Conclusion

Farm resources need to be managed effectively and efficiently so as to achieve the laid down goals of an organization.

5.0 Summary

In this unit, you have learnt that:

- When land is limited in supply, it is advisable to grow more profitable crops, practice multiple cropping and keep livestock.

- Gross margin per man-hour can be increased by producing more per hectare, choosing the right enterprises to produce, improving farm layout, using improved tools and working methods, keeping good labour relations.
- Managers need to be motivated so that they can put in their best.

6.0 Tutor Marked Assignment

- * Explain the concept of land consolidation in relation to farm management.
- * State the various ways by which gross margin per man-hour can be increased on a farm.

7.0 References and other sources

Giles T and M Stansfield (1990): The Farmer as Manager. CAB International Publishers, Second Edition PP 173-198.

MODULE FOUR: ECONOMIC CLIMATE AND BUSINESS PROBLEMS IN NIGERIA

Unit 1: Business environment in Nigeria

Unit 2: Business objectives

Unit 3 : Decision -making

Unit 4: Sources of risks and uncertainty in Agriculture

Unit 5: Measures for reducing risk in Agriculture

Unit 1: Business environment in Nigeria

1.0 Introduction

2.0 Objectives

3.0 The body of the unit

3.1 The Business environment

4.0 Conclusion

5.0 Summary

6.0 Tutor Marked Assignment

7.0 References and other sources

1.0 Introduction

You would have read over and over again that the larger proportion of the populations in the developing countries including Nigeria depend solely on the agricultural sector for their means of livelihood and survival. The environment do play an important role in the progress and development or otherwise of the agricultural sector in particular and the economy as a whole. In this unit, you will get more acquainted with the business environment in Nigeria and how it affects the farming business.

2.0 Objectives

It is expected that at the end of this unit, you will be able to explain the business environment in Nigeria and how it affects the farming business in Nigeria.

3.0 The body of the unit

3.1 The Business Environment in Nigeria.

No business, and therefore no farm, exists or operates in a vacuum. Constraints of various kinds-social, legal, national, political and economic, sometimes emanating from forces (especially economic forces) well beyond national boundaries - constantly affect the freedom of managers, matters such as the way in which prices and costs are influenced by international markets, the prevailing climate for borrowing funds, the effect of legal constraints on the field of employment, social responsibilities in respect of such questions as pollution and other environmental issues, as well as the influence of purely political considerations on national farming policies and international agreements, are just some of the more obvious examples of the various influences which combine to create the environment in which managers have to work. Recently there are major developments such as the completion of the single market in Europe, increased international pressures through GATT negotiations to decrease world -wide agricultural protection and the growing public concern over a wide range of food safety and green issues (including the gradual approach of the green house effect) will, we believe, increase rather than decrease the external constraining influences on farmers, such influences of various kinds affect the whole business community in one way or another.

In Nigeria, at the moment the interest rate is very high. most commercial banks have a lending rate of 31% management and administration chargers inclusive, Genuine farmers are not given loan even by specialized. Agricultural banks on the excuse that they

do not possess the needed collateral security. Farm inputs are sold to farmers at exorbitant prices. Even where subsidized inputs are to be given to farmers, they are instead sold to politicians who will then resell to genuine farmers. The value of the naira has fallen, it has been greatly devalued. Most food crops such as rice, maize etc that are locally grown by farmers are not consumed because of poor quality arising from poor processing. Huge import bills are recorded by the federal Government of Nigeria on the importation of polished rice, maize, frozen turkey and chicken etc.

In addition, there is pollution resulting from oil spillage affecting the productivity of soil and crops grown on them. In the Niger - Delta areas of Nigeria there is Youth unrest resulting in crisis with no peace and prospective investors and investors fleeing the area. The high rate of kidnapping in the Niger - Delta has resulted in most of the expatriates running away from the area. The lack of basic infrastructures in the rural areas, the base of production has resulted in high rural - urban migration. The urge to get rich quick has resulted in the neglect of Agriculture. Most of the youths who supposed to go into farming take into quick money yielding ventures like Okada riding. At the National level, the amount of money voted into the agricultural sector is small compared to the oil and gas sector and even defense of the economy.

4.0 Conclusion

Few managers will need reminding that the influences of the business external environment are real, usually unavoidable and just have to be lived with. At the end of the day, farm managers, like all other managers must simply get on and manage effectively.

5.0 Summary

In this unit you have learnt that:

- No business and therefore no farm exists or operates in a vacuum
- Constraints of various kinds - social, legal, natural, political and economic sometimes emanating from forces (especially economic forces) will beyond natural boundaries - constantly affect the freedom of managers

6.0 Tutor Marked Assignment

1. No business, and therefore no farm exists or operates in vacuum. Explain

2. How can a farm manager cope with the various social, political and economic forces of the business environment?

7.0 References and other Sources

Giles, T and M stansfield (1990): The farmer as Manager, second Edition, C.A.B. International pp 10-11.

Unit 2: Business Objectives

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources.

1.0 Introduction

Farmer Management is both an art and a science which is primarily concerned with the organization of factors of production and the operation of the farm firm so as to achieve predetermined objectives. In this unit, attempts will be made to explain the business objectives of a farm.

2.0 Objectives

It is hoped that at the end of this unit you will be able to state and explain the various business objectives of a farm.

3.0 The body of the unit

One of the main managerial tasks is to define business objectives and sometimes, policy. Profit maximization is usually assumed as the objective of business management. In practice, few businesses aim simply at profit maximization, if a business makes continuous losses, it will neither produce capital nor attract outside capital into it.

Despite this admitted importance of making adequate profits, profit maximization as an objective is invariably modified by other aspects - the most important being adequate cash income in commercial farming and adequate diet in subsistence farming. Without these neither the business nor the family could survive to aspire to any other objectives.

The individual hopes of top managers will decide the purpose of the business. This will vary widely because objectives and the relative importance placed on them vary greatly between people. Farmers claim or show a wide range of business objectives, many of which limit potential profitability.

The objectives for any organization should be clear and numerical so that all its managers have a commonly accepted goal. Popular strategic or long-term business and personal objectives in commercial farming include:

- High cash income
- A high return on capital/employed
- Capital growth
- Personal satisfaction
- Security
- Social responsibilities of management.

Management must consider both the present and the future; both the short run and the long run. It is no use aiming for quick profits if the long-term health, perhaps even the survival, of the business is threatened. Managements also have to make the business capable of performance, growth and change in the future.

Objectives need deep thought especially with regard to commitments and cash requirements. Profit maximization can still be the aim in planning farming systems but within the limits set by the other objectives such as cost minimization, output maximization, controlling the largest share of the market utility maximization etc.

4.0 Conclusion

This unit you will agree with me, has afforded you the opportunity to learn the various business objectives of a farm.

5.0 Summary

In this unit you have learnt that:

- Farm Management is both an art and a science which is primarily concerned with the organization of factors of the farm so as to achieve predetermined objectives
- The objectives of establishing a farming enterprise may be any of these: profit maximization, cost minimization, utility satisfaction, controlling the larger share of the market or a combination of all of them.
- The objectives for any organization should be clear and numerical so that all its managers have a commonly accepted goal

6.0 Tutor Marked Assignment

- 1 The ultimate goal of any producer is to maximize profit. Explain
2. What are the popular and long term business and personal objectives of commercial farming?

7.0 References and Other Sources.

Johnson D.T,(1990): The business of farming: A Guide to farm Business Management in the Tropics. Second Edition, Macmillan Publishers, pp5 - 6.

Unit 3: Decision Making

- 1.0 Introduction
- 2.0 Objective
- 3.0 The body of the unit
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

Managers are making decisions almost constantly for if no decisions had to be made, there would be no need for managers. It has been said that decision making is management and managers are often judged on their ability to make decisions. In this unit, you will get more acquainted with what decision making entails and how decision are being made by farm managers,

2.0 Objectives

It is expected that at the end of this unit, you will be able to :

- Define decision making
- Explain the steps involved in decision making by farm managers

3.0 The body of the unit

3.1 Decision - Making

Decision making is the activity of selecting from among possible alternatives, future course of action. It is essentially therefore choosing between alternatives, even if

the alternatives are to accept a proposed change or to continue as at present. Decision - making is an essential component of management in all the stages of planning and control. However, managing involves more than decision making alone. Decisions clearly must be both agreed with others and implemented. All managers, whatever their precise roles are constantly involved in such decisions as how to use resources, determine production plans and investment priorities.

The various aspects of decision-making are concerned with making up ones mind and with getting things done, anyone who can toss a coin can make a choice: anyone with a mouth can give an order, anyone in authority can get some sort of results. The reality of decision making is concerned with getting the right things done in order to solve the right problems

Optimal decision making needs rational selection of a course of action. However, complete rationality can never be achieved as not all alternative courses can be identified let alone analyzed. Also decisions are made for the future so the expected results of alternative courses are never certain. Instead of being based as far as possible on reasoning however, decision are often influenced in practice by personal feelings, power politics, the influence of others and the decision-maker's own values. Instead of aiming for perfect decisions always, the concept of satisfying will often suffice. This limits the task to finding a course of action that is good enough.

Search for the best, practical decision, with the information and with the time available is helped if certain systematic, basic steps are followed:

3.2 Steps involved in Decision making

1. Find the precise problem- it is necessary first to realize that a problem exists and that a solution is needed if one is to be able to think logically about it.
2. Define the most likely solutions to the problems - All courses of action should be listed. The more important the decision, the more important it is for managers to spend time searching for and examining possible solutions so that decision is made with reliable facts rather than guesses, and within the framework of both available resources including time and the policy of the organization.
3. Assess the quantitative effects of each likely solution-All factors that could possibly influence the effects of the decision, and that can be quantified should be

considered. However, attention can be confined to only those items, such as costs, prices and yields, that will vary with the alternative chosen.

4. Evaluate the qualitative effects of each likely solution - Alternative solution will usually have several effects that are hard or impossible to quantify. For such, examine their qualitative effects.

5. Decide the best solution - Choose which alternative to accept. Despite uncertainties, a decision should be made if as much information is available as can be obtained within a reasonable cost and time limit. A decision is normally better than none at all postponing the decision is the same as deciding to continue with the existing situation.

6. Take Action - It is useless to make a decision if it is not effected. An action must be taken to apply the decision to the problem, it must be communicated to all concerned. 7. Review the results of the action - The decision will normally have been based on incomplete information and even the 'facts' obtained may change. It is important therefore to observe and measure the results of effecting the decision. This will not only enable remedial action to be taken, if necessary, it should also help to improve future decision and to avoid repeating mistakes.

4.0 Conclusion

Decision making is the most important responsibility of a manager. These decisions form the life-wire of the farm business. A decision is normally better than none at all! In practice, decision must often be made quickly and the manager may have to make one that is adequate rather than ideal.

5.0 Summary

In this unit you have learnt that:

- Managers are making decisions almost constantly for if no decisions had to be made, there would be no need for managers.
- Decision making is the activity of selecting from among possible alternatives, future course of action.
- Optional decision making needs rational selection of a course of action.

6.0 Tutor Marked Assignment

1. What is decision making
2. What are the various steps involved in decision making.

7.0 References and other sources

Giles T and Stansfield M (1990): The Farmer as Manager, Second Edition CAB International Publishers, Wallingford, UK. Chapter 5 PP 44 - 57.

Damisa M.A and M. Yohanna (2007): Role of Rural women in farm management Decision making Process: Ordered probit Analysis. World Journal of Agricultural Science 3 (4): 543-546 IDOSI Publisher

Unit 4: Risks and uncertainty in Agriculture

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Meaning and scope of risk and uncertainty
 - 3.2 Sources of risks and uncertainty in Agriculture
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References

1.0 Introduction

Any decision or course of action is liable to risk or uncertainty if several possible outcomes could arise from it. In this unit, you will get more acquainted with the meaning and scope of risk and uncertainty as well as the various sources of risks and uncertainties in agriculture

2.0 Objective

It is hoped that at the end of this unit, you will be able to:

- Define and explain risk and uncertainty
- Discuss the various sources of risks and uncertainties in agriculture

3.0 The body of the unit

3.1 Meaning and scope of risk and uncertainty

As strictly defined in economics probabilities can be given to the alternative outcomes when there are alternative outcomes to which objective probabilities cannot be fixed that is, the form of each possible outcome is known but the chance of occurring is not, the situation is one of uncertainty.

The most distinguishing feature of agriculture from other business is its great dependence on forces of nature. Farming is continuously subjective to the effect of the forces of nature. Farm managers are often concerned with how to cope with uncertainties such as fire, drought, insects, various diseases, flood etc. Risk can be defined as uncertainty of loss. This definition has two main features:

- It eliminates a situation where there is no likelihood of loss.
- It also eliminates the situation where the loss is certain.

Technically speaking one can talk about the likelihood or the probability of occurrence if it is possible to back this up with a probability figure based on adequate research findings. For example, a statistical probability of having an occurrence of drought in the middle belt of Nigerian should be known to the meteorologist if he has collected rainfall data over the past two years and have done necessary calculations. Technically speaking, in case of uncertainty, the probability of occurrence of the event under consideration is not known most probably because there is no available data with which any meaningful estimation and calculation can be done. There are definite risks and uncertainty in almost every production activity the farmer undertakes. For example,

if a farmer invest in a new machine or apply fertilizer on the farm he is not sure of what the exact output will be. In a few cases he can reasonably predict the outcome of his action. For example he know that if he, did not carry out pests and discuss control, his cost will be reduced but he is not sure of what effect this will have on his output.

3.2 Sources of Risk in Agriculture

The various sources of risks in agriculture are: natural, social, technological and political.

Natural elements such as weather, drought, flood, frost, rainstorm, fire, plants and animal diseases.

Social risks Such as theft, arson civil commotion.

Technological risk: This could arise from the adverse effect of technological development such as pollution, contamination, radiation and explosion.

Political risk: This could emanate from the activities of political office holders in form of political instability and frequent changes of agricultural policies and programmes.

4.0 Conclusion

All production involve taking risk as cost and effort are incurred before the final outcome is known. Farm managers need to bear this in mind and device ways of coping with it.

5.0 Summary

In this unit you have learnt that:

- Any decision or course of action is liable to risk or uncertainties if several possible outcomes could arise from it.
- There are natural, social, technological and political risks.

6.0 Tutor Marked Assignment

1. Define and explain risk and uncertainty
2. What are the various forms of risk that you are familiar with.

7.0 References and other sources

Johnson D.T (1990): The Business of farming: A Guide to farm Business Management in the Tropics. Second Edition, Macmillan Publisher Pp 48-49.

Unit 5 Risk Management

- 1.0 Introduction
- 2.0 Objectives
- 3.0 The body of the unit
 - 3.1 Measures for reducing risk
 - 3.2 Practices for enhancing good farm management and minimizing risk.
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor Marked Assignment
- 7.0 References and other sources

1.0 Introduction

Risk - bearing ability is the ability to survive unexpected low income and unforeseen costs and still stay in business. This varies between farmers as they differ in resources availability, especially in capital reserves, or savings and off-farm income. In this unit you will get more acquainted with measures for reducing risk as well as the practices for enhancing good farm management and minimizing risk.

2.0 Objectives

It is expected that at the end of this unit, you will be able to:

- Mention and explain the various measures for reducing risk.
- Explain practices for enhancing good farm management and minimizing risk.

3.0 The body of the unit

3.1 Measures for Reducing Risk

Measures generally used by Nigeria small scale farmers to reduce risk include:

1. Use of better and improved variety of seeds, spraying for insect pests, use of varieties of seeds that are more responsive to fertilizer, use of irrigation and crop rotational practices, Fadama. In livestock production, it include vaccination of animals against pests and diseases, use of improved breeds of stock and adoption of improved nutrition.
2. Diversification- entails growing more than one crop so as to guide against total loss. The rationale is that if the returns to one crop is low in one particular year owing to the vagaries of weather, the other crops may not be equally affected. The other form of diversification include multiple farm locations, intercropping, staggered planting and mixed farming.
3. Insurance - By insurance, a private company or state organization guarantees to pay a certain sum in the event of a disaster in return for a relatively small annum premium. The main risks that can be insured against include fire, lighting, storm, theft, fire etc. Farmers can insure with the Nigeria Agricultural Insurance Company (NAIC).
4. Use of Native safeguards- This consists of fencing the farm to prevent animal from entering the farm and destroying crops, clearing farm border lines to scare away animal pests, the erection of scare crows or noisy making devices to keep away birds and other animals from doing damage to the crops on the farm,

5. Maintaining Flexibility and Liquidity - Flexibility, that is, adjusting the business to fit new circumstances, also helps to stabilize income. In essence flexibility aims essentially at facilitating enterprise change-over to take advantage of more favourable prices or yields at a lower cost for a given plant or overhead cost.

Liquidity involves having some unused cash balance or unused borrowing power which can give the farmer the financial ability to adjust his plans in order to give financial effect to a flexible plan.

6. Forward contract- Another measure of reducing risk is contracting prices in advance, to reduce risk of market and price changes. By securing an advanced contractual agreement to sell his crops at some predetermined price a farmer may be able to convert an otherwise uncertain situation to one that is completely devoid of price uncertainty.

3.2 Practices for Enhancing Good Farm Management and Minimizing Risks.

For all types of agricultural enterprises, the following practices are recommended for enhancing good farm management and risk minimization .

1. Efficient farm planning and adequate project preparation.
2. Sound inputs procurement arrangement.
3. Adequate resources combination and utilization.
4. Good record keeping
5. Continuous monitoring and evaluation

For a crop enterprises in particular, the following should be considered:

2. Good site selection
3. Procurement of viable seeds and the varieties recommended and suitable for the local environment and soil types.
4. Good plan preparation at proper time to ensure adequate seed germination and crop growth.
5. Planting according to the prevailing crop calendar of operations based on the crop calendar that is applicable to that environment.
6. Using correct spacing, seed rate and plant population.
7. Applying recommended types and rate of fertilizer at the correct time.
8. Embarking on effective weed control.

9. Adopting effective pest and disease control measure.
10. Prompt harvesting after seed maturity and proper drying.
11. Keeping adequate record and ensuring prudent management of finance.

For a livestock enterprise:

2. Select good livestock breeds or parents stock.
3. Purchase breeds from reputable source.
4. Provide good pasture especially for ruminants.
5. Provides good sanitation and housing unit
6. Provide good veterinary services
7. Keep adequate farm records
8. Ensure prudent management of funds.

4.0 Conclusion

5.0 Summary

In this unit you have learnt that:

- Risk bearing ability is the ability to survive unexpected low income and unforeseen costs and still stay in business.
- Measure of reducing risk include but not limited to: insurance, diversifications, forward contract, maintaining flexibility and liquidity.

6.0 Tutor Marked Assignment

1. Define Risk bearing ability
2. List and explain five measures of reducing risk in a farming enterprise.

7.0 References and other sources

Adesimi, A.A. (1988): Farm Management Analysis with perspectives through the Development process, p 97-109

Agu, G.A and E. Udu (2007): New System Economics: A senior secondary course, African - FEP Publishers Limited p. 2

Block, P.J.V. (2003): Farm Business Analysis: key to Pennsylvania farm profitability. Extension circular, 375, college of Agricultural science cooperative Extension, University of Florida, p.6

Olukosi, J.O and P.O Erhabor (1988): Introduction to farm Management Economics: Principles and Applications, AGITAB Publishers Ltd, Zaria, p. 8

Johnson, D.T (1990): The Business of farming: A guide to Farm Business Management in the Tropics. Second Edition, Macmillan Publisher pp 48-49.

Ronald, K, William M.E and Patricia A (2007): Farm Management. Oxford University Press.

Olson K.D (2004): Farm Management Principles and strategies by. Ames Iowa State University Press 429PP.