COURSE GUIDE

AEA310
FARM BUSINESS ORGANISATION

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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.

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.

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.

LEARNING CONTENT

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.

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.

MAIN COURSE

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MODULE 1 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.

UNIT 1 DEFINITION AND SCOPE OF FARM BUSINESS MANAGEMENT

Unit Structure

1.1 Introduction
1.2 Learning Outcome
1.3 Main Content
1.3.1 Definition of Farm Management
1.3.2 Perceptions of farm Management
1.3.3 The Scope of Farm Management
1.3.4 Farm Organizations
1.3.5 Farm Operations
1.4 Summary
1.5 References and Further Reading/Web Resources
1.6 Possible Answers to Self-Assessment Exercise(S) Within The Content

1.1 Introduction

Dear students I welcome you to Unit 1 of this Course AEA310 Farm business organization. This a three hundred level course and as such you must be familiar with the word Agriculture which is the science of converting productive resources to produce livestock's, 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

1.2 Learning Outcome

By 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.

1.3 The Body of The Unit

1.3.1 Definition of Farm Management

Farm management, comprises of two words 'farm' and ‘management’ Literally 'farm' means a piece of land where crops and livestock enterprises are taken up under a common management and has specific boundaries. 'Management means the act or art of managing.

Because of its recent origin, the term 'farm management' conveys different meaning to different people. Some take It to be another name of production economics or agricultural economics, while others consider farm management nothing more than the farmer's art of carrying out the daily routine. The daily work of supervision of farm labour and carrying out the directives of seniors by the public or private employed farm manager, is generally referred to as farm management. There is, in fact, no Single definition that is acceptable to all. More important is to understand as to what this term actually means.

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.

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. It could also be defined as a science which deals with the proper combination and operation of production factors including land, labour and capital and the choice of crop and livestock enterprises to bring about a maximum and continuous return to the most elementary operation units of farming.

Farm management not only a pure science but also an applied science. It is a pure science because it deals with the collection, analysis and explanation of facts and the discovery of principles; it is an applied

science because the ascertainment and solution of farm problems are within its scope.

Self-Assessment Exercise1

Define farm management.

1.3.2 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 researcher's farmers problems which are preventing profitable organization and operations of the farm.

The Researchers Perspective of farm management are:

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

Self-Assessment Exercise 2

What is the Researchers Perspective of farm management?

1.3.3 The Scope of Farm Management

Dear Students, Farm management is generally considered to fall in the field of micro economics. It deals with the allocation of resources at the level of an individual farm. While in a way it is concerned with the problem of resource allocation in the agricultural sector, and even in the economy as a whole, the primary concern of farm management is the farm as a unit.

It covers aspects of farm business which have a bearing on the economic efficiency of the farm. Thus, the types of enterprises to be combined, the kind of crops and varieties to be grown, the dosage of fertilizer to be applied, the implements to be used, the way the farm functions are to be performed, all these falls within the purview of the subject of farm management.

Farm management is principally concerned with farm organization and farm operation.

1.3.4. Farm organization

The organization of a farm requires making of many decisions. Some of these decisions include:

i. Selecting the farm
ii. Planning the cropping system.
iii. Determining the erosion-control practice to be used.
iv. Selecting the livestock enterprises.
v. Determining the kinds and number of buildings, labour and power required.
vi. Machinery needed to operate the business.

The farm operation, is planning the cropping system, decides on the basis of the expected cost and income, not only how much of each crop to grow on the various grades of soil, but what varieties to plant and the amount of seeds and fertilizer to use per hectare.

If he raises livestock, he makes the following decisions

a) Class of livestock to produce and system of production.
b) Selects the breeding animals, and decides on the season of the year when the young are to be born and the mature animals marketed.
c) The kinds of feed to use and the rate of feeding.

Besides the above decisions, the farm operator has to make many decisions, on how to combine his resource most favourably to get the production job done at a reasonable cost.

To produce crops and livestock, two items are added to land by management; capital (in the form of buildings, power machinery and land improvement) and labour. The farmer decides on how much labour to use and the kinds and amounts of buildings, power and machinery to supply. In summary, there are two types of decisions to be made in connection with farm organisation, namely;

a) Those decisions which determine the kind and amounts of products to be produced.
b) Those which determine the amounts and farm of each agent of production which will be used to secure the desired commodities.

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

1.3.5 Farm Operations

Farm operation is concerned with the problem of doing the work on the farm, and like farm organization involves making of decisions on how

best to get the job done. The farmer has to decide whether to feed the cattle by hand or with a self-feeder: whether to milk the cows by hand or with a milking machine. He decides on the work schedule for the season as well as for the day-to-day operations. When there are several jobs to be done in a short time, he decides the order of their importance.
There are several ways of performing any farm operation, some of them are better adapted or more efficient in a particular situation than others. Also there are many different jobs to be done on a diversified farm, each calling for a separate set of skills. Some of these have to be done each day, and for these repetitive jobs, it is important that the farmer and his hired and family workers use efficient work method.

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.

1.4 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.

1.5 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.

1.6 References and Further Reading/Web Resources

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

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1.7 Possible Answers to Self-Assessment Exercise(S) Within The Content

Answers:

1. Define 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. It could also be defined as a science which deals with the proper combination and operation of production factors including land, labour and capital and the choice of crop and livestock enterprises to bring about a maximum and continuous return to the most elementary operation units of farming.

2. **The Researchers Perspective of farm management are:**

i. Collect data from farmer's field.

ii. Analyze and interpret them in order to make inferences for possible farm land improvement as well as recommendations

UNIT 2 OBJECTIVES OF FARM MANAGEMENT

Units Structure

2.1 Introduction
2.2 Learning Outcomes
2.3 Main Content
2.3.1 The farm as production sub-system
2.3.2 Classification of Decisions:
2.3.4 Specific objectives of farm management
2.4 Summary
2.5 References and Further Readings
2.6 Possible Answers TO Self-Assessment Exercise(S) Within the Content

2.1 Introduction

Dear students, I welcome you to Unit 2 of this Course AEA310 Farm business organization. In the last unit we learnt that Farm management is the application of economic principles in the art of managing a farm business. And also, that 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.

In this unit we are going to discuss the objectives of farm management. 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.

2.2 Learning Outcomes

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

2.3 Main Content

2.3.1 The Farm as a Production Sub-System

In farm management, analysis, a farm as a whole considered to be the unit for making decision because the objective is to maximise the returns from the whole farm Instead of only improving the returns from a particular enterprise or a practice. No agronomist will tell a farmer how to utilise his surplus labour and scarce capital by taking up supplementary enterprises. The sciences like Horticulture, Dairy, etc.; are similarly concerned with only one aspect of the whole farm business. Farm management considers all possible aspects and enterprises for the farm as a unit. It does not, concern with merely one profitable enterprise, but with most profitable enterprise combinations to obtain maximum income from the farm as a whole on a continuous basis, exploiting the advantages of complementarity and supplementarily in the farm enterprises. It is much more concerned with total crop productivity instead of one crop productivity. A farmer may be declared '*Krishi Pandit*' because of highest, per acre yield obtained of a particular crop but may be at the same time earning less than an average farmer of his group, because he may be allocating most of his resources to one crop and one plot instead of using each unit of labour and other resources where it adds to returns the most. This is truer where many of the farm resources are limited. The principles of Farm Management thus help reach the optimum enterprise-mix that would yield the highest income to the farmer from his total farm organisation. 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, equipment's , 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 allocation of limited resources among a number

of alternative uses requires a manager to make decisions. Without decisions nothing would happen. Even allowing things to continue as they are "implies a decision, perhaps not a good decision but a passive decision nevertheless.

The process of making a decision can be formalized into a logical and orderly series of steps. Important steps in decision making process are:

1. **Choosing Between Alternatives**
   Choosing the best solution to a problem is not always easy, nor is the rest best solution always obvious. Sometimes the best solution the decision-making be selected. The future implications of any of his chain should be taken into much consideration before taking any action-
2. **Taking action**
   Recognizing problems, gathering information, specifying alternatives, making decisions: these are all worthless steps in the managerial process unless followed, by purposeful action. This means the individual manager acting in terms of his own analysis of his own particular problem rather than blindly following his neighbour.

   The manager must ensure that his employees understand and appreciate the reasons for the new policy. This is very necessary, because, the manager makes the decisions and in mat cases, these decisions are to be implemented by his employees.

3. **Evaluating Consequences**
   Having recognized and acted upon a problem, the consequent state of affairs may be good or bad. May be the initial, problem will have been solved, maybe not. Either way, there will be new problems requiring the cycle of the decision-making process to be started once more.
   By reviewing the outcome of his decision, the manager can add to his wealth of experience and so impose his ability to make good decisions in future.

4. **Hearing Responsibility**
   Responsibility and management go hand in hand. One of its characteristics of a good manager is a willingness to face issues and to take decisions. Attempting to avoid responsibility for past decisions and actions means at best shifting the blame; at worst it means a withdrawal from the managerial role through a failure to recognize the distinction between luck and judgement.

   The manager who blames all his failures on bad luck never learns from his past mistakes and so continues to make “unlucky”

decisions or very often tries to avoid making any decision, waiting for his "luck".

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 involves, minimizing (or reducing) the possibility of getting the wrong results by using past information, experiences, getting advice from experts or extension advisors etc. a good manager is flexible and responsive to changes in order to avoid getting wrong results. The success in farm management requires the capacity and ability on the part of the farmer to make the correct decisions. Decision making on the part of farm manager is one of the crucial functions. The total system can be improved and streamlined through research and educational programmes.

Self-Assessment Exercise 1

What are the steps you will take in decision making?

2.3.2 Classification of Decisions:

a) Importance
b) Frequency
c) Imminence
d) Revocability
e) Available alternatives.

A) Importance: Since decision vary as to the importance; the importance of a decision therefore, may be measured by the size of the potential gain or less involved. For example, the decisions to engage in poultry enterprise, is more important than the choice of the breed of bird to rear.

B) Frequency: Some decisions may be made only once in a lifetime, such as the decision to choose farming as a vocation. Other decisions must be made almost daily, such as livestock feeding times, milking times, and the amount of feed to be fed each day. Such decisions can be routinized by developing a feeding or milking plan at the beginning of the feeding or milking period and staying with it until conditions warrant change.

C) Imminence: A manager is often faced with making some decisions before a certain deadline or very quickly to avoid a potential less for example weeding and fertilizer application. Other decisions may have no deadline, and there may be little or no penalty for delaying the decision, until more information is obtained and more time is spent analyzing the alternatives.

D) **Revocability:** Some decisions can be easily reversed or changed if observation indicates the first decision was not correct. An example would be a livestock feed ration which can be changed rather quickly and easily as long as the change was not so abrupt to upset the livestock.

Other decisions may not be reversible or can be changed only at a very high cost. Examples would be when a piece of land is planted with oil palm, to change this piece of land to food crops will be at a very high cost.

E) **Available alternatives**.; some situations present a multitude of possible choices for decision-making; others may provide perhaps only two alternatives. When a wide range of choices is available, techniques must be developed for eliminating less likely courses of action and concentrating on a few workable choices for careful study and analysis.

2.3.3 Objectives of Farm Management

Successful farm management requires the ability and capacity on the part of farmer not only to make decisions, but to make the correct decisions. This decision-making process is discussed below. To improve management ability, one needs a process-model to know what one is trying to improve.

Eight processes or functions have been proposed by Nielson:

1. Formulation of the goals or objectives of the firm
2. Recognition and definition of a problem or opportunity;
3. Obtaining information-observation of relevant facts;
4. Specification and analysis of alternatives;
5. Decision-making—choosing an alternative;
6. Taking action;
7. Bearing responsibility for the decision or action taken;
8. Evaluating the outcome.

Understandably, a manager may or may not consciously proceed systematically from first process to the last. However, the study of this model IS useful for proper understanding of the process.

Since management functions are primarily a mental process, each choice and action that results is conditioned by the attitudes, values and goals of the manager. His goals and value systems unconsciously determine what he will observe, what variables he will consider, what information he will gather and which alternatives he will choose. Thus the formulation of

these goals is essential in effective management, because they give direction to the whole managerial process.

Problems need to be recognized and defined in order to produce the most, acceptable results. Research has indicated that identification of problems in the farm business is surprisingly difficult for farmers. Problems are recognized as a result of:

(l) a forced action situation,
(2) a systematic study of farm operation, or
(3) ordinary opportunities for action. Good managers will pinpoint more problems as a result of systematic farm-business analysis.

Decision-making is one of the crucial process or function of management decision can be made to take no action and live with the status quo, to a solution while obtaining further information, or to undertake a different course of action. Successful farm managers prefer to try alternative course of action, within reasonable risk limits.

Good managers have not only the will and capacity to get the job done but also the fortitude to bear the responsibility for the actions they take. Evaluation similar to search for alternative courses of action, and here management performs the role of scientific enquiry and analysis.

The managerial process can be improved and streamlined through research and educational programmes. Management of course, remains to be still an art in making choices, taking action and bearing responsibility for the action taken. In practice, management IS a continuous process through observing and conceiving ideas, analysing the observations, making decisions on the basis of the analysis, taking action and accepting the responsibility. Management can be distinguished from entrepreneurship. The entrepreneurship is a pioneer, founding and developing activity. The manager is hired to manage an established business. Most farmers function in both capacities. A third category, the executive, carries out the orders of management.

The central objectives of farm management are 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 fiber, 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.

Self-Assessment Exercise 2

State the four objectives of farm management.

2.4 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.

2.5 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.

2.6 References/Further Reading/Web Resources

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.

James Nielson, "Improvement of the Management Resource in Agriculture: Improved Managerial Process for Farmers". J. Farm Econ. 4,3, 1251, Dec. 1961.

2.7 Possible Answers to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1

What are the steps you will take in decision making?

1. Choosing between alternatives
2. Taking action.
3. Evaluating Consequences.
4. Hearing Responsibility

Self-Assessment Exercise 2

State the four objectives of farm management.

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

UNIT 3 NATURE OF FARM MANAGEMENT DECISIONS

Unit Structure

3.1 Introduction
3.2 Learning Outcome
3.3 Main Content
3.3.1 Farm Management Decision Making
3.3.2 Dynamic Nature of Farm Management Decision
3.4. Conclusion
3.5 Summary
3.6 Refences / Further Reading/Web Resources
3.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

3.1 Introduction

Dear students, I welcome you to Unit 3 of this Course AEA310 Farm business organization. In the last unit we discussed that the farm is a production sub-system in an economy and normally identified as a business venture. We also looked at the objectives of farm management which includes profit maximization as well as control the lion share of the market.

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.

3.2 Learning Outcomes

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.

3.3 Main Content

3.3.1 Farm Management Decision making

As farm management is the science which concerns with making decisions and choices about combining different enterprises and optimal utilization available, it is necessary to understand the typical farming decisions. Decisions can be classified on the basis of characteristics like
(l) importance,
(2) frequency,
(3) imminency,
(4) revocability, and
(5) available alternatives.
For the purpose of obtaining proper sequence in production process the various typical farming decisions are discussed under three major heads (see chart on next page):

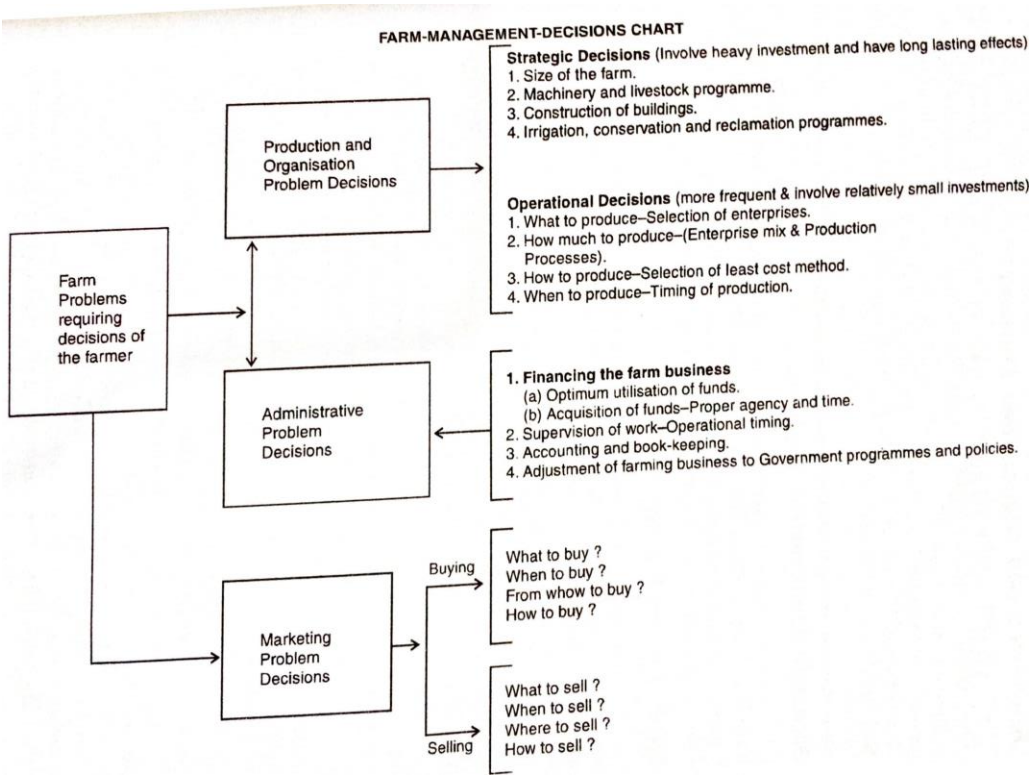

Fig: 1 Farm Management-Decisions Chart

Production and Organization Decision

Farm manager must, take decisions on certain fundamental questions regarding production of enterprises and organization of his farming business. These questions involve his land resources, what, to produce, and how to produce. He must, decide what the scale of his farming operations will be and how to equip his farm business. Such decisions can be further categorised into two groups i.e., strategic and operational decisions:

Strategic Management Decisions

These are the management decisions which involve heavy investment and have long lasting effect. These decisions give shape to overall organisation of the business. In turn, operational decisions get greatly influenced by the organisation. A few of the examples of strategic management decisions are detailed below

1. Deciding the best size of the farm

Factors that determine the decision on the size of farm depends on:
---- type of farming area,
---- type of business,
----land irrigated or unirrigated,
--- level of mechanisation,
---- intensity of land use,

Farms of different sizes have thus both advantages and disadvantages in terms of costs and operational efficiency. The economic efficiency of each crop and/or livestock enterprise and their combination, when they are operated on different, scales, are considered to decide the optimum size of the holding. The decisions here will partly determine how specialised or diversified the farm will be.

Appropriate size of farm is more important to a farmer than to most other businessmen because of slow turnover in agriculture and the durability of the farm investments. The most serious weakness of agriculture in India is that many of the farms are not large enough to utilise fully the available family labour. The major advantage of the large farms is greater labour and machinery efficiency. Trends indicate that operational size of farm is increasing. As new machinery and labour saving devices develop, the operational size of the holdings will continue increasing. A large holding in one period may turn out to be economically small in the future.

Leasing in and leasing out activities can regulate the operational size of holdings.

2. Decisions on farm labour and machinery programmes

Deciding the most profitable combination of the factors to be used in producing a commodity is one of the important, farm management decisions. Is there too much equipment in relation to the land and labour available on the farm, would it be profitable to vary labour or land to better utilise a given set of machinery What combination of farm labour and machinery should be adopted to get maximum returns? These are a few of the questions on substituting machinery for labour and vice as to reduce the cost; of production. Best. machinery and labour program should consider many other factors such as seasonal labour requirements against, availability, financial position of the farmer, etc. As labour and machinery are substitutable such decisions are taken in relation to size of the farm i.e., volume of farm business

Suppose, for example, there is a question of purchasing power-wheat thresher on a farm situation where only 3 hectares of wheat, are grown. Threshing of wheat, from 3 hectares means work for only 1-2 days for the thresher, which is too less to justify the purchase. It, may be, however, possible to get custom work, in this situation, purchase of thresher may be justified. In the absence of sufficient custom work, the purchase of power thresher may not, be economical and consistent with the opportunity cost, of capital.

3. Decisions on construction of buildings

Decisions on size and type of farm buildings involve heavy-investment which become fixed resource for the business. Kind of buildings, for the present pattern and level of production, depends upon the kind and level of crops or livestock produced for example, different types of buildings are required for dairy enterprises, crop enterprises and vegetable enterprises. Once a particular building programme has been designed and executed it will be very difficult to bring about any change without, heavy additional costs.

4. Decisions regarding irrigation, conservation and reclamation programmes

As improvements of alkalinity, salinity and other soil defects require heavy investments, soil conservation and reclamation programmes often have to be spread over years and choice of most economical method or a combination of methods has to be made from among mulching, contouring, strip cropping, bunding and terracing, In case of reclamation, decisions have to be made on chemical treatment, soil scraping, cultural practices, depending upon the feasibility and efficiency of a particular treatment.

Decisions on irrigation programme are very crucial because it involves heavy investment and it gives a flow service over long period of time and also improves the productivity of other associated inputs. Availability of

underground water, field contour and availability of capital, influence the choice on type of irrigation.

Self-Assessment Exercise 1

Mention five (5) classifications of decisions based on characteristics.

Operational Management Decisions

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 manage must always try to answer whenever he is faced with operational problems on the farm.

3.3.1a The question of "What to Produce?"

A farm operator must choose among several enterprises. What kind of enterprise(s) to produce depending on his resource's 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.

3.3.1b 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, beforehand, 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.

3.3.1c 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).

3.3.1d 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's 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.

Self-Assessment Exercise 2

What are the factors you will consider in deciding the best size of the farm?

3.2.1a Factors that Can Cause Changers 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

3.2.1b Administrative Decisions

Along with production and organisation decisions, a farm manager has taken certain administrative decisions too. He must, ensure, for example that farm. work is done in time and in the way it should be done. He must foresee the for and implement adjustments, sometimes quickly, in production and organisation strategies. Brief description of a administrative decisions is as follows:

1. Financing the farm business
   While some farmers have their own sufficient funds, others may have to borrow. The problem is twofold, (1) utilisation of funds within the farm business and (it) acquisition of funds: proper agency, time and type of credit. Farm manager has to decide which agency will be more economical and efficient for getting loan when needed and of the type needed. What, time will be appropriate for getting credit and how to plan repayments? How much credit he should get within safe limits to secure the maximum benefit from the productive credit.
2. Supervision of work
   The farm manager has to make sure that every job is done in time in the desired way and operationally most efficiently.

3. Accounting and book-keeping
   Administrative responsibilities on the farm involve collecting, synthesising and analysing data to evaluate performance for making future decisions. Here decisions are to be made on the kind of farm records, time allocation and money to be spent on this activity; balancing these inputs with the utility of farm records maintained and analysed.

4. Adjustments to Government programmes and policies
   Government programmes and policies place restrictions on farm production and marketing programmes. Food zones, restriction on product movements, price support, policy, etc. are some of the examples of Govt. instruments used to regulate production, marketing and prices of farm products. The farmer has to decide on the level of production and resource use consistent with price and procurement policies. Again size of the holding has to remain within the ceilings imposed by the state, as is the case in India.
5. Production for home consumption and the market
   The objective normally should be to earn highest profits and not to operate a self-sufficient unit. If the home-consumption enterprises interfere with this objective, these should be generally discarded in favour of buying the product from the market, with the higher earnings from commercialization of major farm enterprises.

   Often, however, farm families prefer to produce some product* for home consumption, even if they are not, economically justified. Under such situations the farmer has to decide the proper combination of products for home consumption as well as for the market to achieve maximum family satisfaction.

3.2.1c Marketing Decisions

Decisions on buying and selling, i.e. to buy seeds, fertilizers, livestock equipment, etc. from the least. cost source and in the least costly way and to sell the' farm produce in a manner to get, maximum profit, are some of the very important decisions a farmer has to make. A brief discussion on buying and selling (Incisions of the farmer are as follows:

1. Buying (When to buy, where to buy and how to buy)
   Farmers generally purchase a number of inputs for production of agricultural commodities. Attempt is always to purchase at the least cost. He, therefore, faces such questions as from where to buy? When to buy? and How to buy? Suppose he has to purchase poultry feed to meet his requirements for one year. Choices before him are to:

(1) buy maize grain Immediately after harvest to get advantage of post-harvest low prices and meet storage costs over time,

(ii) spread his buying over different periods, pay higher prices and avoid storage costs and risks,

(iii) purchase in bulk or in small lots at a given time—small and large transactions normally carry different prices and costs,

(iv) purchase processed poultry feed or different components separately and mix them himself.

These are a few of the lots of small decisions the farmers have to take which make the whole difference to the success or failure of their business.

2. Selling (When, where and how to sell farm products. *)

Although individual farmer has a little control over market prices, yet he can adjust the timings of his sales. He can sell in the lean period when the prices are higher, keeping in view the storage costs. Other alternatives are to sell immediately after harvest at lower prices. In principle if the market prices are expected to be higher than the storage costs, it would be profitable to store and sell in the lean period. Whether to sell in the village or city market, whether to sell as raw material or a processed product are some other such decisions the producer-seller has to make.

3.4 Conclusion

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

3.5 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 ma king questions.

3.6 References/ Further Readings /Web Resources

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

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3.7 Possible Answer to Self-Assessment Exercise(S) within the Content

Answers:

Self-Assessment Exercise 1

Decisions can be classified on the basis of characteristics like

(l) importance,
(2) frequency,
(3) imminency,
(4) revocability, and
(5) available alternatives.

Self-Assessment Exercise 2

Factors that determine the decision on the size of farm depends on:

---- type of farming area,
---- type of business,
----land irrigated or unirrigated,
--- level of mechanisation,
---- intensity of land use,

UNIT 4 ORGANIZATION OF THE FARM SET UP

Unit Structure

4.1 Introduction
4.2. Learning Outcome
4.3 Main Content
4.3.1 Organization of the farm set up
4.4. Summary
4.5 References / Further Readings
4.6 Possible answer to self-assessment exercise(s) within the content

4.1. Introduction

My good students, I welcome you to Unit 4 of this Course AEA310 Farm business organization. In the last unit we discussed the basic farm management decision making questions as what to produce, how to produce, when to produce and for whom to produce. Also we discussed that farm management decisions at the farm level are complicated by the dynamic nature of the environment as well as economic principles such as opportunity costs, returns to scale etc can be used to answer the basic farm management decision ma king questions. In this unit 4, we shall discuss the organization of the farm set up.

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.

4.2 Learning Outcome

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.

4.3 Main Content

4.3.1 The Organization of the Farm Set up

In the organization of the farm set up, 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 natural 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 building 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 are 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.

Self-Assessment Exercise 1

Highlight the factors you will consider in organizing a farm set up. Explain the general principles that will serve as guidelines for farm managers in planning the layout of the farm.

4.4 Conclusion

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

4.5 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.

4.6 References / Further Reading/Web Resources

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

Johl S.S and Kapoor T. R. (2019 edition) Fundamentals of Farm Business Management

4.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1

Highlight the factors you will consider in organizing a farm set up.

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

Self-Assessment Exercise 2

Explain the general principles that will serve as guidelines for farm managers in planning the layout of the farm.

1. 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.
2. 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.
3. 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.

UNIT 5 ATTRIBUTES AND FUNCTIONS OF A FARM ANAGER

Unit Structure

5.1 Introduction
5.2 Learning Outcome
5.3 Main Content
5.3.1 Attributes of the farm manager
5.3.2 Functions of the farm manager
5.4 Summary
5.6 References/ Further Reading/Web Resources
5.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

5.1 Introduction

Hello noble students, I welcome you to Unit 5 of this Course AEA310 Farm business organization. In the last unit we discussed 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, distribution and adjustment of enterprises. 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.

5.2 Learning Outcome

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.

5.3 Main Content

5.3.1 Attributes of the Farm Manager

The success in farm management requires the capacity and ability on the part of farmer to make the correct decisions. Decision making on the part of farm manager is one of the crucial functions. The total system can be improved and streamlined through research and educational programmes. In order to improve management ability, one needs a process model to know what one is trying to improve.

A farm manager can be 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.

Self-Assessment Exercise 1

What are the attributes of a good farm manager?

5.3.2 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.

Self-Assessment Exercise

State the requirements in effective control system of a managerial function.

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 it 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 2.

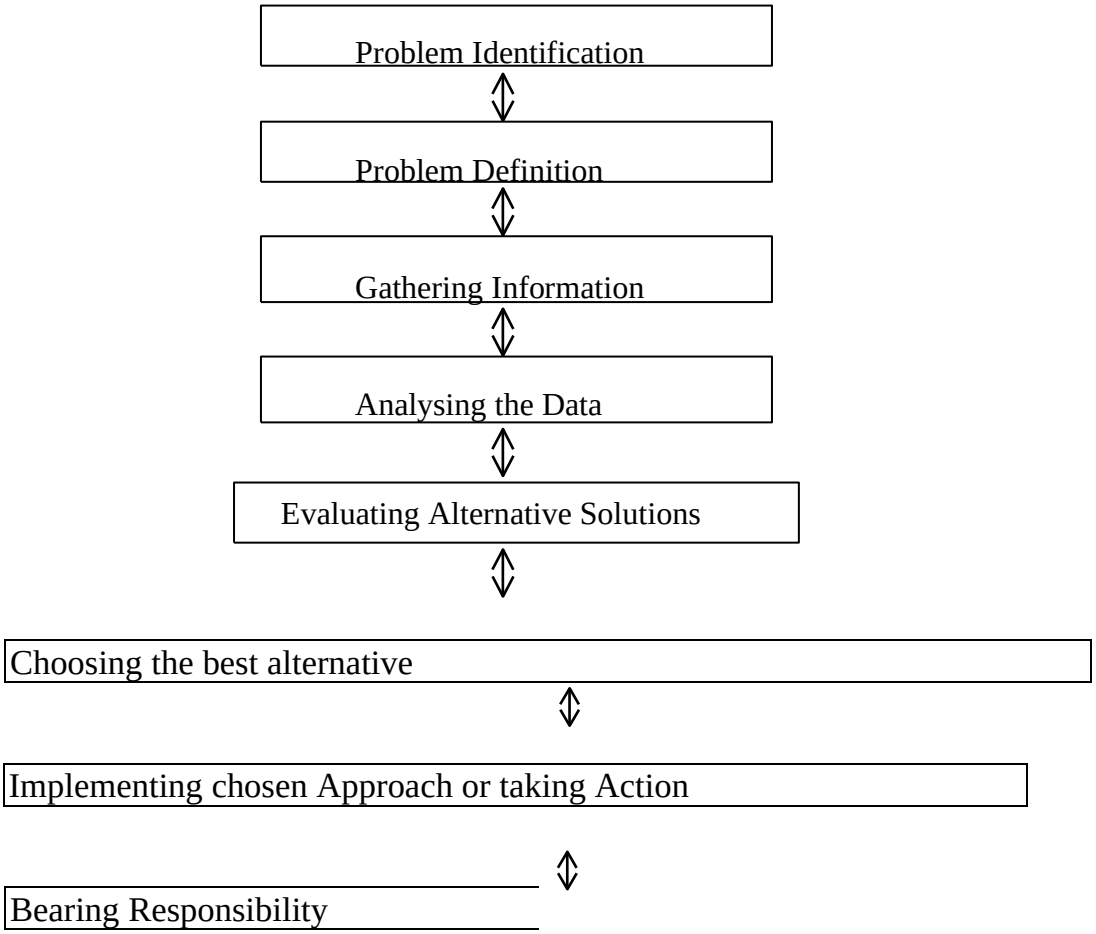


Figure 2: The Right steps of the problem-solving approach.

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.

Self-Assessment Exercise 3

Who is a farm manager?

5.4 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.

5.5 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

5.6 References /Further Reading/Web Resources

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.

5.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

1. What are the attributes of a good farm manager?

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

2. State the requirements in effective control system of a managerial function.

An effective control system requires the following steps:

i. The key areas to be controlled should be defined when the plan is made.
ii. Performance standards should be set for the key areas.
iii. Execute the plan and measure the results.
iv. Compare results with the pre-set standards.
v. Take corrective action.

3. Who is a farm manager?

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 and he must be hard working.

UNIT 6 APPLICATION OF MANAGEMENT PRINCIPLES TO FARM ORGANIZATIONS AND OPERATIONS

Unit Structure

6.1 Introduction
6.2 Learning Outcome
6.3 Main Content
6. 3.1 Farm Planning
6.3.2 Budgeting
6.3.3 Gross Margin
6.4 Conclusion
6.5 Summary
6.6 References/ Further Reading
6.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

6.1 Introduction

Hello noble students, I welcome you to Unit 6 of this Course AEA310 Farm business organization. In the last unit we discussed 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. Also that a good farm manager among other attributes must be hardworking, dedicated and honest.

That the functions of farm manager entails planning, organizing, directing and controlling.

In this unit we shall be discussing on the application of management principles to farm organizations and operations.

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.

6.2 Learning Outcome

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

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

6.3 Main Content

6.3.1a Farm Planning

All business undertakings, ranging from a few vegetables small farm to the large commercial firms, plan their production and marketing operations consciously with a discriminating intellect in respect, of what, how much and how to produce, and when and where to buy and sell. The planning of the operations and their execution is the secret of their economic success. Unfortunately, our farmers are not that business-minded. If, however, agriculture is to play a real role in the development of the economy our country Nigeria, the farmers have got, to consider farming as a business undertaking.

With the recent technological development in agriculture, farming has become more complex business and requires careful planning for successful operations. Most farmers probably have some kinds of plans about the organisation and operation of their farms. Perhaps, in most, cases, they are not very systematically worked out, they may be based largely on habits or customs. The farm boy learns the cropping pattern followed by his father and his neighbours and tends to follow more or less the same pattern himself. But here we are interested in scientific planning—planning that is systematic, written and based on the best information available and aimed at achieving the maximum of satisfaction for the farmer and his family out, of their resources. It is the deliberate and conscious effort, on the part of the farmer to think about the farm programmes in advance and adjust them according to new knowledge on technological developments, changes in physical and economic situations, price structures, etc. Farm planning process, thus, Introduces a measure of economic content into farming business. Those who cannot make rational decisions and need adjustments will find the farming not a profitable proposition for them. The various advantages of farm planning can be grouped under the following heads

1. **Income improvements**
   Farm planning approach is an integrated, coordinated and advance programme of actions which seek to present an opportunity to cultivators to Improve his level of income. It is his opportunity of income maximization which induces farmers to adopt desirable, changes. Such income maximizations could be achieved from a given bundle of resources by re-organizing present, type of production as well as introduction of changes in technology.

   Many studies conducted have shown that, farm incomes can be appreciably increased through careful planning of production

programmes of the farms even with the existing production techniques available to the farmers.

2. Educational Process
   Farm planning is an educational tool to bring a change in the outlook of the cultivators and the extension workers. Knowledge of the latest, technological advances in agriculture is a pre-requisite for better farm planning: so, farmers keep their information up-to-date through this forced action situation of farm planning process. This acts as a self-educating tool for the farmers. The farmers can closely study their own business and see more clearly their opportunities and limitations, thus, improving their managerial ability.

3. Desirable organisational changes
   Farm planning is an approach which introduces desirable changes in farm organisation and operations and makes the farm a viable unit. In its broad sense, it may mean any contemplated change in the method or practices followed on the farm; or it may mean the complete re-organisation of the farm business. The advantage of farm planning approach lies in it treating the farm as an operational unit and tailoring the recommendations to fit, into the individual farmers' opportunities, limitations, problems and resource position.

6.3.1b Advantages of Farm Planning

Basically, farm planning helps the farmer to do the following things in an organized systematic and effective way:

1. It helps the farmer to think about him and gather ideas on the methods and practices which might be useful to him in his farming
2. It, helps him to examine carefully his existing resource situation and past experiences as a basis for deciding which of the new alternative enterprises and methods fit his situation the best.
3. Within the framework of new ideas and opportunities and his own resource position, it helps him make rational decisions on what to do.
4. It helps him to identify clearly the various supply needs for his alternative improved plan, i.e., estimation of the requirements of seeds, fertilizer, plant protection materials etc.
5. It helps him to find out the credit needs, if any, of the new plan.
6. It, gives him an idea of the expected income after paying off his loans, etc.. The increased income from the new plan might act as an incentive for better future planning.

Farm planning is thus a process of making decisions regarding the organization and operation of a farm business so that, it results in a continuous maximization of net returns of a farm business.

6.3.1c Objectives of Farm Planning

The ultimate objective of farm planning is the improvement in the standard of living of the farmer and immediate goal is to maximize the net income of the farmer through improved resource use planning.

It is generally assumed in farm planning that a farmer is primarily interested in maximizing his net income. This is probably valid for most farmers, as a higher net income provides him the means for satisfying many of his wants. It is a convenient convention, therefore, to evaluate a plan on the basis of the net income that can be derived from it. This can be easily estimated by budgeting. But while this is convenient, we are by no means restricted to this objective. We could just as well direct economic analysis at maximizing security, minimizing risk or minimizing labour requirements. We will, however, for convenience in the short, time, confine ourselves largely to planning for maximum net income. By working out several alternative plans the farmer can, of course, make his choice on the basis of several objectives.

When the objective is maximization of net income, it involves commonly called “the planning horizon”. The length of the planning period on the basis of the farmers situation has to be, therefore, decided. The main objective is to maximize the annual net income sustained over a long period of time.

6.3.1d Why is a written plan needed?

The improved farm planning is a process of observation, appraisal and analysis of weighing the merits of new and old ideas and then deciding which ideas to use in the period ahead This process is learnt much better if the results of the thinking and reasoning are written down in a simple but organized way. This is the mam reason for using various farm planning proforma (written forms). The proforma are not, however, a substitute for logical thinking and reasoning but are an aid to it.

We generally observe that every farmer whether progressive or backward, literate or illiterate, decides about his whole farm every year in the beginning of each crop season as to what crops he will sow in each field, what methods will he use to grow the chosen crops and how and where will he sell. Most farmers do not feel the necessity of writing these decisions on paper. They still do planning and budgeting, but it is mental rather than written form. The farmers with long experience and

particularly having a simple and small business organization may be able to do planning this way. But farming has now become more complex because of the rapid changes that are coming physical, social and economic set up. It is practically impossible for farmers to simply remember all the figures necessary for setting up a complete farm budget in their minds. To be more systematic or organized in thinking and reasoning in farm planning, the farmers must have a written farm plan. A written farm plan should, therefore, show the crops to be grown, the livestock to be raised, the practices to be followed in their production, the programme for the use of labour, the investment to be made in equipment and machinery and similar other details about the use of farm-resources.

Self-Assessment Exercise

What are the advantages of farm planning.

6.3.1d Principal Characteristics of a Good Farm Plan

A good typical farm plan should have the following characteristics and information:

1. It should provide for efficient use of farm resources such as, labour, power and equipment.
2. The crop plan should have balanced combinations of enterprises, i.e., it should
   (i) provide for given minimum production of different food, cash and crops,
   (ii) help maintain and improve soil fertility,
   (iii) help raise and stabilize farm earnings, and
   (iv) improve distribution and use of labour, power and water requirements throughout the year.
3. Avoid excessive risks.
4 Provide flexibility.
5 Utilize the farmer’s knowledge, training and experience and take account, of the farmer's likes and dislikes.
6 Give considerations to efficient marketing facilities.
7 Provide programme of obtaining, using and repaying the credit.
8 Provide for the use of up-to-date modern agricultural methods and practices.

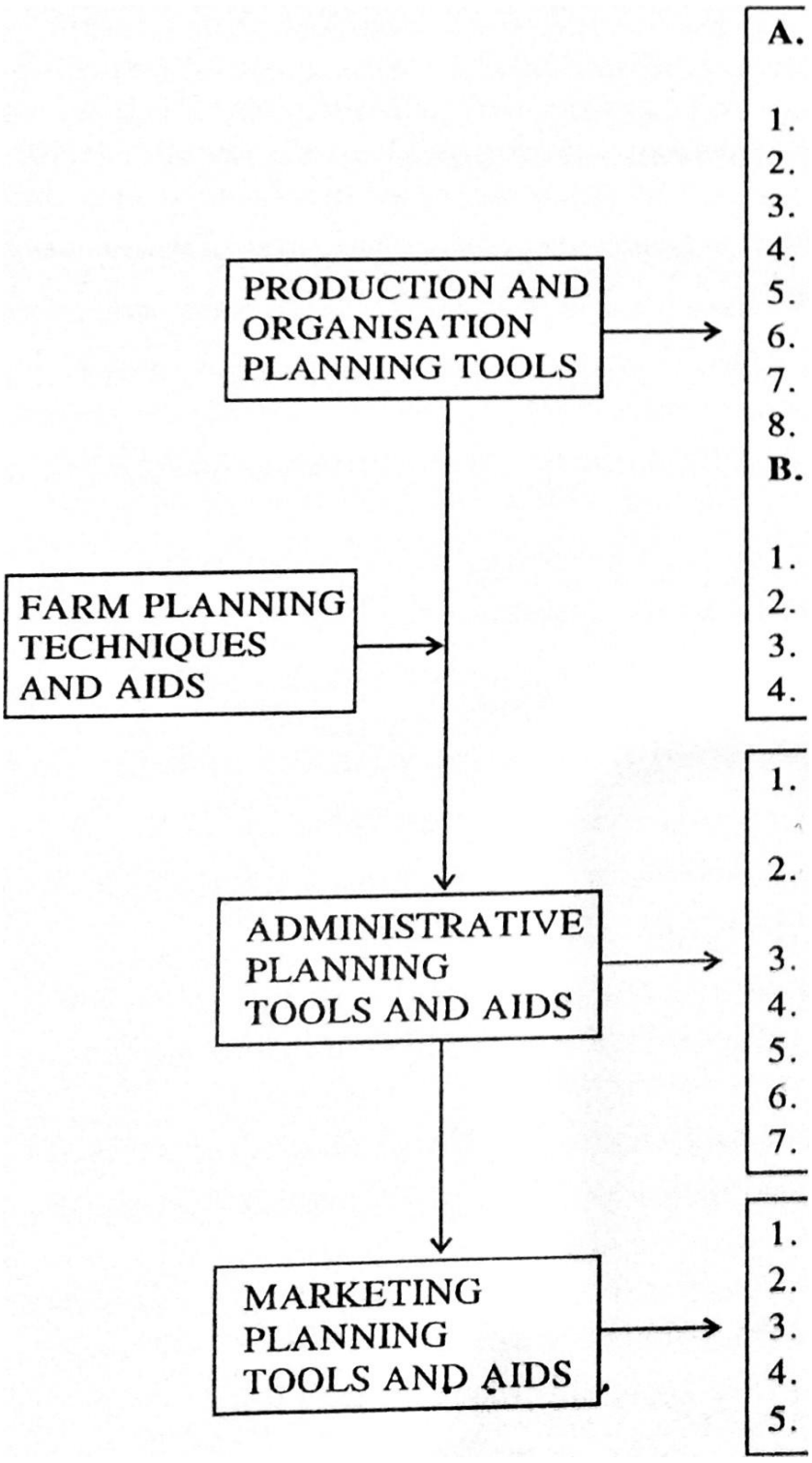
Self-Assessment Exercise 2

Indicate the principal characteristics of a good farm plan.

6.3.1e: Techniques of Farm Planning

There are many techniques or tools or models and aids available to a farm planner for generating answers to multifarious farm management, problems either separately or simultaneously.

The various tools and aids to farm planning are depicted in the following chart



CERTAINTY SITUATIONS

Production function models
Farm budgeting technique
Linear programming
Non-linear programming
Operational Research Techniques
Dynamic programming
Integer programming
Recursive programming

Imperfect Knowledge and Risk Situations

Modified programming models
Diversification models
Probabilistic models
Game theory models
Farm technological coefficients
(More reliable input output data)
Electronic accounting and data processing facilities

Interdisciplinary research facilities
Meteorological forecasting service
Commercial servicing
Contractual farming or operation

Demand and supply projection analysis
Future trading analysis
Marketing management research
Improved credit facilities
Price policies

Chart I—Techniques of Farm Planning & Budgeting

6.3.1f Information Needed for Planning and Budgeting

Farm Planning under Perfect Knowledge

The information needed for farm planning can be classified into five categories

1. Resources available on the farm-statement, of resource restrictions
(a) (1) Topography
(it) Drainage
(iii) Soil management problem-soil sample, yield history.
(b) Land holding
(it) Irrigation potential

(iil) Labour on farm
(iv) Working capital
(v) Farm buildings.

Also the information will need to be complied on additional resources that can be acquired.

2. Outputs to be produced : List of process and farm enterprises.
3. Technical input-output coefficients organized as linear "processes' or in a functional form.
4. Expected prices of farm products and inputs.
5. Social, institutional and personal framework within which the farmer operates his farm business.

(b) Farm Planning under Imperfect Knowledge

Additional data required for farm planning under imperfect, knowledge are

1. Price and yield variability information—for modified linear programming model.
2. Time series data on yields and prices—for diversification models.
3. Information needed on probability distribution for probabilistic and game theory models.

(a) possible sets of events (such as various types Of possible weather conditions, various credit policies, various price levels)
(b) possible action alternatives available to the farmer.
(c) specification of possible consequences either in monetary terms or in utility terms,
d) subjective probability distribution attached to a set ol' events.

A brief description of the various farm planning techniques/aids is given below. Budgeting and linear programming will be dealt in some details.

Self-Assessment Exercise 3

What are the classifications of information needed for farm planning under perfect Knowledge.

6.3.2 Farm Budgeting

3.2.1 The meaning of budgeting and budget

Farm budgeting is a method of analyzing plans for the use of agricultural resources at the command of the decision maker. A farm plan is a programme of the total farm activity of a farmer drawn up in advance. A farm plan should show the crops to be grown; the practices to be followed

in their production; the combinations of other enterprises; use of labour, the investments to be made in equipment and buildings and similar other details.

The expression of such a farm plan monetary terms by estimation of receipts, expenses and net Income IS called budgeting. In other words, farm budgeting is a ocess of estimating costs, returns and net. profit of a farm or a particular enterprise.

We Will be concerned with both planning and budgeting as the budget. helps us to alternative plans and select the one that IS most suitable. Planning without calculating the receipts and expenses in monetary terms, is not, of much use. So, farm planning and budgeting go side by side.
Three major points of application of a farm budget, are as under.

1. **Application prior to the Crop Season**
   The use of a farm plan prior to the beginning of a season is to outline the programme of work, study this programme Indicating planned orgamsation and operational practices from the standpoint, of management principles. In brief, it supplies a method by which a farmer can make his major mistakes on paper before the season starts and then find and correct these mistakes before they affect his returns or repaying capacity

2. **Application during the Farm Year**
   A farm plan is best used during the operations as a flexible guide or yard stick and not as a fixed rule for every operation. To the efficient farm manager, a farm plan serves as a compass to keep the operator on right, track.

3. **Application at the end of the Season**
   The analysis of the estimated results as compared with actual results from each of the individual enterprises and the entire farm business as a unit to make future plans more effective in determining thc strong and weak points of the farm business and in planning for improving the efficiency and increasing net earnin

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).

3.2.2 Types of Farm Budgeting

There are two types of steps or methods of farm budgeting: (a) partial budgeting—enterprise budgeting, and (b) complete budgeting.

(a) Partial Budgeting

It refers to estimating the outcome or returns for a part, of the business, i.e., one or a few activities. It may be desired for example, to estimate additional cost and returns from growing one acre of hybrid maize in place of local maize. Here additional costs due to seeds, manure, irrigation, etc, need to be estimated compared with additional expected returns

Partial budgets are commonly used to estimate the effects or outcomes of possible adjustments in the farm business before such adjustments are actually made. Partial budgeting analysis is simple, quick and easy. It provides a method for deciding how far expenses and yields should be increased of a particular enterprise. Changes in organization can be worked out without complete reworking of the whole plan. It, however, fails to consider all the relevant factors in maximizing net returns to the farm as a whole. It also does not, allow substitution between resources, and it overlooks complementarity and competition between different enterprises. A combination of partial budgets may not necessarily add to a total budget, and will never explain the allocation of joint costs between different enterprises.

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	40,000
	Total	**200,000**

4.	**Estimated costs (N)**	
a.	On seed cotton	8,000
b.	On spraying	10,000
c.	On loss of groundnut output (1 ha)	92,000
	Total	**110,000**

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

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

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

(b) Total or Complete Budgeting

It refers to making out a plan for the farm as a whole or for all decision on one enterprise. In case the budgeting analysis involves complete re-organization of the farm business, it is called Complete Budgeting. Complete Budgeting considers all the crops, livestock producing methods, and estimated costs and returns for the farm as a whole.

Farmers need to make both long-run and short-run or annual budget plans. The best thing is to prepare a tentative plan on a long-term basis and phase the programme into annual plans. The emphasis in the annual plans is on operational improvements, while the long-term plan takes care also of structural improvement which are of permanent type.

Full budgeting brings about progressive changes in income, i.e., it draws attention to a variety of factors affecting farm income. It takes an entire view of the farm as a whole and resources and enterprises are considered simultaneously. It considers complementary, supplementary and competitive relationships between enterprises. It allows the substitution between resources and avoids omission of any vital part of the organization being left out of consideration.

Disadvantages are that it requires more time and efforts and more basicdata in accurate form.

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

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	1,230,000
	Total	**N13,530,000**

(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	400,000
	Total	**₦ 2,713,160**

(e). 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	3,600,000
Total	**27,600,000**

(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.

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

6.3.2.1 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.

6.3.2.2 Steps in Farm Planning and Budgeting

In developing an optimum farm plan with the budgeting technique, the following steps are generally followed.

(i) Specification of the technical co-efficient of production

Farm planner should compile all relevant information from various sources to learn some of the improved farming methods and practices and the various Input• output factors which can be applied to the local conditions. This entails specifying the requirements of each resource in producing each product. This kind of information must be obtained from specialists in various fields of agriculture.

The main sources of relevant Information are:
(l) research trials,
(2) trials and demonstrations on cultivators' fields,
(3) crop-cutting experiments,
(4) farm management surveys,
(5) farmers' own trials and practical experience
(6) information recorded by extension workers.

It is important to recognize that a particular crop may be produced by any of the many different processes, e.g., wheat may be produced with or without irrigation with or without fertilizer and of course, with various levels of fertilizers. In general, one will prefer the most efficient technology. Therefore, the technical co-efficient of production of different enterprises need to be specified.

(ii) Specification of appropriate prices

In planning ahead, one can never be sure of the prices that will obtain for different products. In some countries, much effort is put in price forecasting and development of 'outlook' Information that will permit more intelligent guessing. One simple prediction model that can be used is to assume prices next year will be the same as they are this year. As an alternative, we might take the average of the last three years. Prices will need to be specified keeping in view

the last years' average prices, future expectations and nature of changing technology etc.

(iii) Preparation of enterprise profitability chart

I laving decided the enterprises, what prices and input-output coefficient to use as a basis for planning, one will have to evaluate the alternative opportunities and to select those opportunities which make the best use of the farmers' resources. The enterprise budgets are prepared by deducting variable cash expenses from gross returns of each enterprise. Then profitability ranking chart is prepared on the basis of net return figures of all the possible enterprises.

(iv) Preparation of the farm map

Prepare farm map depicting all the physical features such as soil types, topographical features, drainage, roads, water channels, source of irrigation, buildings, etc.

(v) Inventory of limited resources

Prepare a complete list of the farm resources which limit the size of the different farm enterprises; such as land, labour, animals, buildings, machinery and liquid capital etc. This helps assessment of resource limitations and production capabilities of the farm. To these resources, possibilities of hiring or borrowing are added. These restrictions lay down a framework, within which a farm plan is considered.

(vi) Examine the existing farm plan

Obtain full information on how each resource is being utilised and what are the outputs obtained from various enterprises adopted on the farm. In other words, examine the present plan followed by the cultivator, for its costs and returns and resource use pattern

(a) Work out the variable costs such as hired labour, seed, water charges, fertilizers, Insecticides, etc., for each enterprise.

(b) Work out the gross Income from various enterprises by multiplying physical Yields by price per unit of the commodities.

(c) Work out the returns to fixed farm resources from various crop In respect of each enterprise through deducting variables costs from the gross income.

With the help of these returns to the fixed farm resource from various crop enterprises, the total returns to the fixed farm resources from the existing plan of the farmers are analysed. Analyse the resource-use pattern based on existing plan of the farmer as well.

(vii) Locate the weakness of the present plan

A careful analysis of the resource-use in the existing plan will throw up imbalances. The various weakness in the existing plan will act as guidelines for bringing about improvements in the plan e.g., relatively more area less profitable crops or low level of use of yield increasing technology

(viii) List out the risks to agricultural production on that farm

Make a list of all such risks involved in the agricultural production on that particular farm and bear them in mind in developing the alternative plan. To the extent possible, provide for effective steps for eliminating or reducing such risk. This refers in particular to irrigation and drainage programmes and measures pests and disease control.

(ix) Prepare the alternative plans

There may be a number of alternative plans suiting the situation of farmer. Within the framework of resource restrictions and keeping in view the weakness of the existing plan and the possibilities of incorporating modern technology, a few alternative farm plans may be developed. Alternative plans can be worked out which may vary in the amount of risk involved, labour requirements and other features as well as probable net incomes.

(x) Analysis of the alternative plans to check the profitability and practicability of a particular plan

New plans are analysed for costs and returns and the optimum plan which promises the highest returns (returns to fixed resources) and is the most practicable on that farm situation is selected. Check the plan to be within resource restrictions. Ideally, we should evaluate alternative plans on various points such as probable income, amount of risk involved, labour and capital requirements, etc. The farmer should select the plan for his farm which he feels will give him and his family the highest level of satisfaction in respect of these and other variables.

(xi) Implementing the plan

The farm planning does not end with the preparation and selection Of the final plan for adoption. The most important phase is its proper execution. There may be certain difficulties in implementing the plan, unless all the problems are properly anticipated. Plan, for example, may call for an application of mixed fertilizers. If this is not available or if the farmer does not have the credit to purchase it, he cannot follow the plan. It is not likely that one will anticipate all the problems that may arise. For example, in the long-range planning, one may not, be able to anticipate the

important changes in the price relationships. For this reason, a good plan will usually provide for flexibility. Flexibility makes it possible to alter the plan as new problems arise or new information becomes available.

Self-Assessment Exercise 4

What are the advantages of Budgeting?

6.3.2.3 Limitations of Budgeting

Budgeting is a technique of farm management with the help of which we make Improvement in the production pattern, resources utilization and farm income. This method is based on experience of the farmer. The value judgements, estimations and expectations play major role. Thus, the accuracy is generally lacking. Similarly, we make improvements in the existing plan by taking into account the expected prices, yield of different crops, cost of production, resource availability etc. Thus, every subsequently improved plan is worked out through hit and trial method and there is no exact system which can be followed.

The budgeting technique assumes linear relationship and the operation of law of diminishing returns is ignored. Similarly, the competitiveness and complementarity between different enterprises is not taken into account. Moreover, the risk part which is predominant in agriculture cannot be taken into consideration effectively while resorting to the process of budge.

6.3.3 Gross Margin

6.3.3.1 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 (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.

6.3.3.2 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, Gross margin/unit area = (GR -TVC)/area.

Step 9: Determine the return to labour:

Divide Gross margin by total labour input

Compare these results with minimum rural wage in your country.

6.3.3.3 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 enterprise
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.
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.

6.4 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.

6.5 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.

6.6 References/Further Reading/Web Resources

Agriculture: Farm Management

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6.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: What are the advantages of farm planning.

1. It helps the farmer to think about him and gather ideas on the methods and practices which might be useful to him in his farming
2. It, helps him to examine carefully his existing resource situation and past experiences as a basis for deciding which of the new alternative enterprises and methods fit his situation the best.
3. Within the framework of new ideas and opportunities and his own resource position, it helps him make rational decisions on what to do.
4. It helps him to identify clearly the various supply needs for his alternative improved plan, i.e., estimation of the requirements of seeds, fertilizer, plant protection materials etc.
5. It helps him to find out the credit needs, if any, of the new plan.
6. It, gives him an idea of the expected income after paying off his loans, etc.. The increased income from the new plan might act as an incentive for better future planning.

   Farm planning is thus a process of making decisions regarding the organisation and operation of a farm business so that, it results in a continuous maximisation of net returns of a farm business.

Self-Assessment Exercise 2: Indicate the principal characteristics of a good farm plan.

A good typical farm plan should have the following characteristics and information

1. It should provide for efficient use of farm resources such as, labour, power and equipment.

'2. The crop plan should have balanced combinations of enterprises, i.e., it should

(v) provide for given minimum production of different food, cash and crops,
(vi) help maintain and improve soil fertility,
(vii) help raise and stabilize farm earnings, and
(viii) improve distribution and use of labour, power and water requirements throughout the year.

3.Avoid excessive risks.

9 Provide flexibility.

10 Utilize the farmer’s knowledge, training and experience and take account, of the farmer's likes and dislikes.

11 Give considerations to efficient marketing facilities.

12 Provide programme of obtaining, using and repaying the credit.
13 Provide for the use of up-to-date modern agricultural methods and practices.

Self-Assessment Exercise 3: What are the classifications of information needed for farm planning under perfect Knowledge.

Farm Planning under Perfect Knowledge

The information needed for farm planning can be classified into five categories

1. Resources available on the farm-statement, of resource restrictions
(a) (1) Topography
(it) Drainage
(iil) Soil management problem-soil sample, yield history.
(b) Land holding
(it) Irrigation potential
(iil) Labour on farm
(iv) Working capital
(v) Farm buildings.

Self-Assessment Exercise 4: What are the advantages of Budgeting?

Some of the several advantages of budgeting are:

10. 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.
11. 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.
12. 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.
13. A budget is a money saver because it is cheaper to make mistakes on paper than in practice.
14. Budgeting provides an excellent learning device for the student on how to organize and reorganize farms.
15. Lending agencies use budgeting process as a basis for appraising the farm business of their clients.
16. 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.
17. Budgeting makes it possible for one to discover certain items and therefore costs, that could be easily dropped.

18. Budgeting requires data of a less detailed nature and because of its simplicity and flexibility will always have a place in practical farm planning.

MODULE 2 FARM BUSINESS ANALYSIS

Unit 1 Farm business Analysis
Unit 2 Methods of collecting Farm Management Information.
Unit 3 Farm Records
Unit 4 Balance sheet
Unit 5 Profit and Loss Account and the Cash flow statement.
Unit 6 Farm business Analysis.

UNIT 1 FARM BUSINESS ANALYSIS

1.1 Introduction
1.2 Learning outcome
1.3 Main content
1.3.1 Object of farm business analysis
1.3.2 Stages of Farm business Analysis
i Proper recording of accounts and activities
ii Analysis and interpretation of results
iii Present Position in Farm Record-Keeping
1.4 Conclusion
1.5 Summary
1.6 References / Further Readings
1.7 Possible Answer to Self-Assessment Exercise(S) Within the content

1.1 Introduction

Hello noble students, I welcome you to unit 1 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we discussed and got acquainted with the meaning and scope of budgeting, gross margin, the procedure for conducting gross margin analysis and its usefulness in farming business.

The basis of progress and success in business is experience. Without suitable records and accurate interpretation of them, however, much of the value of experience is lost. Accounts preserve experience and if properly analysed, brings out its real significance. No business worth of its name, operated today without keeping accounts. The main purpose of this chapter is to make the student understand the necessity and importance of maintaining farm records; to enhance their ability to handle a set or records and accounts; to improve the analytical ability in processing the data collected in farm record and lastly to improve the competency to interpretation of the results.

The subject of farm business analysis is with under different name viz. Farm Accountancy, Farm Records and Accounts, or Farm Book-keeping. The objective is the same and the difference lies in the methods of treatment a approaches. Some definitions of these are given below:
Farm Accountancy is defined as an art as well as the science of recording in books business transactions in a regular and systematic manner that their nature extent and financial effects can be readily ascertained at any time of the year. Farm book keeping is known as a system of records written to furnish a history of the business transactions, with special reference to its financial side. Farm accounting thus. in the usual sense is an application of the accounting principles to the business of farming. It an applied science requiring modifications to suit the needs of varied and less definite operations of a Series of agricultural enterprises.

It is not the purpose of this unit to teach advanced book-keeping and accountancy but to expose the students to simple types of records and accounts that can be easily maintained and analysed on an average farm.

1.2 Learning Outcome

It is expected that at the end of this unit, you will be able to know the objectives of farm business analysis, Steps or stages of farm business analysis, define farm Accountancy

1.3.1 Objects of farm business analysis

The main objects of farm business analysis is to examine:

how does the business fare at a certain time?
where are the weaknesses, and
what improvements are possible.

There are some subsidiary objectives too, such as providing background information for farm policies and for getting credit facilities etc.

1.3.2 Stages of Farm Business Analysis

The following are the three steps or stages of farm business analysis:
(i) Proper recording of accounts and activities,
(ii) Analysis and interpretation of results, and
(iii) Present Position in Farm Record-Keeping (Presentation of results.)

i) Proper recording of accounts and activities.
Proper recording of the data in the relevant columns of suitable record books is very essential. The daily transactions need to be recorded neatly and correctly in the appropriate columns meant for

the purpose. Making summaries and analyzing the recorded data becomes very difficult if systematic method of making the entries is not followed and sometimes all the time and effort put in a haphazard record are lost. It is, therefore, necessary to select suitable types of record books.

ii) Analysis and Interpretation of results.

Raw data in the farm financial records kept by farmers will have little value unless they are properly summarized, tabulated and analyzed. The second stage of farm accounting begins with the determination of the proper measures of income and the computation of management and efficiency factors for the farm.

Finally, tabulations and charts are made to show the factors which affect the farm success and failure that an individual farmer. by comparing his performance with these measures or Standards. may be able to recognise his weak points and take necessary 5teps for improvements.

iii) Present Position in Farm Record-Keeping

A farm record or an account simply another farm management tool. This tool is developed and used for the same purpose like any other farm equipment is used on the farm to aid the farmer in obtaining greater profits or making larger savings in the operation of his business. These records besides making the farmer plan minded. also provide valuable facts to be used in future planning

Even a petty shop keeper in a village or town maintains record and accounts of his business but a farmer with much larger investments in farm assets viz. land, buildings, equipment, tractors, tube wells, etc. and considerable recuring expenses on farming, often does not pay attention to this aspect. The result is that, unlike the shopkeeper, the farmer has no clear picture of what is really happening to his investments and efforts in farming business. For the farmers operating at average level of efficiency, the capital investments may not be yielding even the equivalent of the rate of interest on fixed deposits. Farm family labour working at the farm may not be earning even the market wage rate. Often the farmers continue to lose money year after year in the business of farming but are not aware of it mainly because they do not maintain farm accounts. Without farm accounts. a farmer cannot exercise any financial control over his farm business. He is as helpless as a person who rides a blind horse without reins. The decisions that he makes are guided by vague estimates and guesses based on his past experience of farming. such a farm business without farm records is just like a wall-clock without hands.

Some farmers keep sales-slips from commission agents as records of their income and cash memoranda as records of important farm purchases. A still larger number of fanners enter important items of receipts and expenditure in their pocket. dairies on a date folio on which transactions take place. Such records at their best are only aids to memory otherwise, they are rarely drawn upon for decision making or for a year-to-year review of farm business because they are not. kept in a readily usable form and evidently serve a very limited purpose.

If farm records are not made use of and no lessons are learnt for future operation, the records are as good or bad as not kept. The main reason why some farms am not profitable the lack of proper organisation and failure to follow improved methods of farming, not of course the lack of keeping records. Simply the maintenance of records will not change a farmer's loss into profit. If anything does the trick, it would be better management resulting from the lessons learnt from farm records.

To be real in running a farm business, the need to be kept in a systematic and duly classified form so that they can be summarized to give a concise and precise picture of the farm operation over the year. Such records can serve another useful purpose of making comparison with the successful farms under the similar farming conditions.

Assessment Exercise Self 1

What are the stages of farm business analysis?

1.4 Conclusion

From the unit we were able to discuss the stages of farm business analysis which includes the three steps or stages of farm business analysis:

(i) Proper recording of accounts and activities,
(ii) Analysis and interpretation of results, and
(i) Present Position in Farm Record-Keeping (Presentation of results.).

1.5 Summary:

In this unit you have learnt:

i) Proper recording of the data in the relevant columns of suitable record books is very essential.

ii) Raw data in the farm financial records kept by farmers will have little value unless they are properly summarized, tabulated and analyzed.

iii) A farm record or an account simply another farm management tool. This tool is developed and used for the same purpose like any other farm equipment is used on the farm to aid the farmer in obtaining greater profits or making larger savings in the operation of his business.

iv) Some farmers keep sales-slips from commission agents as records of their income and cash memoranda as records of important farm purchases.

v) A still larger number of fanners enter important items of receipts and expenditure in their pocket. dairies on a date folio on which transactions take place.

vi) If farm records are not made use of and no lessons are learnt for future operation, the records are as good or bad as not kept.

Self-Assessment Exercise 2:

Outline the objects of farm business analysis.

1.6 Refences / Further Reading/Web Resources

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Agriculture: Farm Management

1.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: What are the stages of farm business analysis?

The following are the three steps or stages of farm business analysis:
(i) Proper recording of accounts and activities,
(ii) Analysis and interpretation of results, and
(iii) Present Position in Farm Record-Keeping (Presentation of results.)

Self-Assessment Exercise 2: Outline the objects of farm business analysis.

The main objects of farm business analysis is to examine:
(ii) how does the business fare at a certain time?
(iii) where are the weaknesses, and
(iv) what improvements are possible.

UNIT 2 METHODS OF COLLECTING FARM MANAGEMENT INFORMATION

2.1 Introduction
2.2 Learning Outcome
2.3 Main Content
2.3.1 Methods of collecting farm management information
2.4 Conclusion
2.5 Summary
2.6 References /Further Reading
2.7 Possible Answer to Self-Assessment exercise(S) within the content

2.1 Introduction

Hello noble students, I welcome you to unit 2 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we were able to discuss the stages of farm business analysis which includes the three steps or stages of farm business analysis like Proper recording of accounts and activities, Analysis and interpretation of results and present position in farm record-keeping. 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. . 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 carry out 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.

2.2 Learning Outcome

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.

2.3 Main Content

2.3.1 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:

a) farm account books
b) farm business survey and
c) cost route method.

a) Farm Account Books method: This 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 tool since farmers are likely to have more confidence in their own records than in the average computed from a sample of farmers.

b) The Farm Business Survey: This 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.

d) **The Cost Route method:** As its name suggests aims at getting information on the farmer's activities as they occur every day 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:

a) **Model Farm method**
b) **The experimental demonstration plot method.**

a) **The Model farm method:** This method studies the management practices of selected 'progressive' farmers in great details and presents the evidence as prototypes for the other farmers to adopt.
b) **The experimental demonstration plot approach:** This 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.

Self-Assessment Exercise 1

Explain the methods of collecting farm management information. Describe the two methods of collecting data based on normative approach.

2.4 Conclusion

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

2.5 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.

2.6 References / Further Reading/Web Resources

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Agriculture: Farm Management

2.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: Explain the 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 :

e) farm account books
f) farm business survey and
g) cost route method.

a) Farm Account Books method: This 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.

b) The Farm Business Survey: This 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.

c) The Cost Route method: As its name suggests aims at getting information on the farmer's activities as they occur every day 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.

2. The two methods of collecting data based on normative approach are:

i. Model Farm method
ii. The experimental demonstration plot method.

The Model farm method: This 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: This 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.

UNIT 3 FARM RECORDS AND ACCOUNTING

Unit Structure

3.1 Introduction
3.2 Learning Outcome
3.3 Main Content
  3.3.1 Farm Records and Accounting
  3.3.2 Advantages of Farm Records & Accounts
  3.3.3 Problems and Difficulties in Farm Accounting
  3.3.4 Types of Farm Records and their uses
3.4. Conclusion
3.5 Summary
3.6 References/ Further Studies
3.7 Possible Answer to Self-Assessment Exercise(S) within the Content

3.1 Introduction

Hello noble students, I welcome you to unit 3 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we learnt that the farming environment is dynamic-always changing, records are essential in any farm management operation. That 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 while normative approach involves determining what farmers ought to do to improve their farm management practices. In this unit we will find what makes records 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.

3.2 Learning Outcome

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.

3.3 Main Content

3.3.1 Farm Records and Accounting

Farm records can be defined as the system of putting down in writing of facts and figures concerning the farm business for easy reference.
An account is a systematic arrangement of financial information regarding any phase of business, the purpose of which is to show the relation of debits to credits.

Farm accounting is an application of accounting principles to the complicated business of farming; it is an applied science using the basic principles of accounting but requiring many adjustments and estimations in the adaptation of business accounting principles to varied and less definite operation of series of agricultural enterprises.

Self-Assessment Exercise 1

Define farm records and accounting

3.3.2 Advantages of Farm Records & Accounts

The various advantages of keeping systematic farm records can be described as under.

I. **Means to higher income:** To obtain higher income farmers must have exact knowledge about present and potential gross income and operating costs. The best way to obtain information on present results is to keep records and accounts in order to
   i. Know the financial status at a point of time
   ii. Know gains and losses overtime.
   iii. Know the better source of income and items of cost,
   iv. Keep a check on unproductive expenditure,
   v. Examine comparative profitability and costs involved for different enterprise,
   vi. Locate weak points in the farm organization,
   vii. Compare farm efficiency with the farmers operating under comparable farming situation, and
   viii. Develop rational short short-term and long term production plans

2. Basis for diagnosis and planning

Diagnosis of management problems is the pre-requisite of sound planning. Records and accounts provide the basic information needed for such a diagnosis.

3. Way to improve managerial ability of the farmer

It helps to acquire business, habits which can be of help in taking advantage of changes in the economic environment. The farmer gets a better insight into the working of his business, which helps him in finding out the defects which can be set right by exercising better control and effecting economies. The farmer can avoid mistakes and losses which would otherwise result due to dependence only on memory guidance.

4. **Basis for credit acquisition and management**

Properly kept. records and accounts can demonstrate and authenticate the production and income potentials and credit worthiness of the farmer. Thus, lending agencies can help the farmer in meeting his credit needs more readily and he can manage his credit. utilization pro

5. Guide to better home management

Records and accounts provide information on farm household economy. This is particularly important in India where farm and home monument are so closely integrated, Analysis of farm records provides good guides for the allocation of resource between production improvement and immediate family welfare.

6. Basis or conducting research in Agricultural Economies and production economics

Research requires precise and correct data which is possible only if proper records and accounts are maintained on the farms included the study.

7. Basis for government policies

The farmers need to continuously feed the facts for state and national farm policies such as land policies, price policies, and crop insurance', etc. and accounts are helpful in obtaining the correct data for examining and developing such to be sound.

Self-Assessment Exercise 2

What are reasons for keeping farm records and accounts?

3.3.3 Problems and Difficulties in Farm Accounting

Most of the farmers have a distaste for maintaining farm due to lack of education, business orientation, and time required to do this job. Some of the specific difficulties in maintaining accounts are.

1. Subsistence nature of farming
   Farming as a business is relatively speaking, a small size operation. Farmers cannot engage separately trained accountants for helping them in farm accounting. Subsistence nature of farming does not produce any incentive for keeping the records

2 Farming is a laborious work
Farming requires a lot of physical labour. in addition to mental work of management. In the daily routine, farmer usually gets exhausted in the evening and does not feel like sitting at the desk to complete records and accounts,

3. Triple role of a farmer:
Farmers plays triple role in running his business i.e that of a manager. a financier and a labourer:

He needs therefore. to know his wages as a labourer, his returns to capital, and his returns to his management role. Complex types of records which would give such information are difficult to maintain.

4. Illiteracy and lack of business awareness
The very low level of literacy among the farmers is a hindrance in developing the required level of business awareness on the part of the cultivators and they do not therefore, realise the need for records and accounts.

5. Complicated nature of the agriculture as business.
It is a biological industry and is always subject to weather and other natural uncertainties. It requires an accounting system which can handle various complexities involved in the business of farming. Such complicated accounts are difficult to maintain.

6. Inadequate extension service.
Sufficient number of trained specialists in farm management are not available who could help farmers maintain accounts of their business. Adequate extension specialists should be made available to assist farmers to maintain a systemic records and accounts. Further, the farmers can be organised in farm records associations. These farm records associations will help their members-farmers in maintaining accounts, analysing the data and interpretation of results.

7. Non-availability of suitable farm record books

Lack of standardised, easy to understand and maintain accounts books proforma also stand in the way of willingness of the farmers to keep records.

Standard farm record book' need to be developed which may be simple and easy to understand and available in local languages.

8 Fear of Taxation

Farmers are always afraid of new taxes. They fear that if they maintain records and accounts and their incomes show up high, some sort of tax may be levied on them.

Self-Assessment Exercise 3

What are the problems and difficulties in farm accounting?

3.3.4 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
iv. Daily labour sheet
v. Comparative inventory of farm produce.
vi. 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. 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 azsxfalse 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 and 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 farm household 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. 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.

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.

3.8 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1: Define farm records and accounting.

---- Farm records can be define as the system of putting down in writing of facts and figures concerning the farm business for easy reference.
----- An account is a systematic arrangement of financial information regarding any phase of business, the purpose of which is to show the relation of debits to credits.
---- Farm accounting is an application of accounting principles to the complicated business of farming; it is an applied science using the basic principles of accounting but requiring many adjustments and estimations in the adaptation of business accounting principles to varied and less definite operation of series of agricultural enterprises.

Self-Assessment Exercise 2: What are reasons for keeping farm records and accounts?

1. Farm accounts enable a farmer to find out his present financial position. This will tell his whether he is solvent (i.e. value of assets exceed liabilities) or not. Many farmers might have been able to avoid bankruptcy had they been conscious of the extent to which their liabilities were increasing in relation to their assets.
2. Accurate accounts nature that small items of expenditure which are difficult to memorize, do not escape attention. Any system of accounts involve a record of transactions and a farmers account book provides a list of receipt and payments to which reference can be made in future if the need arises.
3. A farmer who keeps accurate account 1e in a better position to set a loan yon the banks than the farmer who does not keep any set of account.
4. Accounts will be of great assistance to a farmer, who is vacating his farm for an incoming tenant, in claiming adequate compensation for unexhausted improvements on the farm. If the farmer had kept good accounts of all purchases, this will be of great assistance to the valuer who has to assess the tenant's right valuation and the farmer is likely to get adequate compensation.
5. Good recounts shows the earning potential of the farmer so as to serve as a good warning tool to the farmer against over spending.
6. Accounts are also of much value in the settlement of an estate after the death of a farmer.

Self-Assessment Exercise 3: What are the problems and difficulties in farm accounting?

Some of the specific difficulties in maintaining accounts are.

1. Subsistence nature of farming

Farming as a business is relatively speaking, a small size operation. Farmers cannot engage separately trained accountants for helping them in farm accounting. Subsistence nature of farming does not produce any incentive for keeping the records.

2 Farming is a laborious work

Farming requires a lot of physical labour. in addition to mental work of management. In the daily routine, farmer usually gets exhausted in the evening and does not feel like sitting at the desk to complete records and accounts,

3.Triple role of a farmer:

Farmers plays triple role in running his business i.e that of a manager. a financier and a labourer:

He needs therefore. to know his wages as a labourer, his returns to capital, and his returns to his management role. Complex types of records which would give such information are difficult to maintain.

4. Illiteracy and lack of business awareness

The very low level of literacy among the farmers is a hindrance in developing the required level of business awareness on the part of the cultivators and they do not therefore, realise the need for records and accounts.

. 5. Complicated nature of the agriculture as business.

It is a biological industry and is always subject to weather and other natural uncertainties. It requires an accounting system which can handle various complexities involved in the business of farming. Such complicated accounts are difficult to maintain.

6. Inadequate extension service.

Sufficient number of trained specialists in farm management are not available who could help farmers maintain accounts of their business. Adequate extension specialists should be made available to assist farmers to maintain a systemic records and accounts. Further, the farmers can be organised in farm records associations. These farm records associations will help their members-farmers in maintaining accounts, analysing the data and interpretation of results.

7. non-availability of suitable farm record books

Lack of standardized, easy to understand and maintain accounts books proforma also stand in the way of willingness of the farmers to keep records.

Standard farm record book' need to be developed which may be simple and easy to understand and available in local languages.

8 Fear of Taxation

Farmers are always afraid of new taxes. They fear that if they maintain records and accounts and their incomes show up high, some sort of tax may be levied on them.

UNIT 4 BALANCE SHEET

4.1 Introduction
4.2 Learning Outcome
4.3 Main Content
4.3.1 Balance Sheet Statement
4.4 Conclusion
4.5 Summary
4.6 References / Further Reading
4.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

4.1 Introduction

Hello noble students, I welcome you to unit 4 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we learnt that records are essential in any management operation.

That 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.

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.

4.2 Learning Outcome

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.

4.3 Main Content

4.3.1 Balance Sheet Statement

Also called financial statement. It is a summary of the financial position of the farm business at a specific point in time. It is a systematic listing of all the assets and liabilities of the business. Its purpose is to reveal the liquidity and solvency of the business at that particular moment. So, an important part of the balance sheet in the date on which the record was made. The balance sheet statement is also called the Net-worth statement. It is arranged in 2 parts, the values of which are equal.

--- Liabilities
---- Assets

Liabilities represent what the business owes to the other person. While Assets represent the value of all the items owned by the business. Liquidity refers to the ability of the business to pay its debts especially on the short run. While solvency is the ability of the business to meet its financial obligations over a long run. Both the assets and the liabilities "must" balance i.e. they must be equal and the balancing is achieved by a third concept the Net-worth which is defined as the contribution of the owner of the business to the business or more technically "as what the business owes its owner". Assets = Liabilities + Net-worth

Self-Assessment Exercise 1: Explain balance sheet statement.

CLASSIFICATION OF ASSEST: These are as follows: -
(i) Current
(ii) Intermediate/Working capital
(iii) Fixed assets.

CURRENT ASSETS- include those items of the business that are either cash or that can be transformed into cash within one production period. They include such as cash, saving/current accounts deposit, account receivables (i.e. credits or payments expected within one production period), Goods that are finished and ready for sale over one year.

INTERMEDIATE/WORKING ASSETS - Are those which can within a relatively short period of time be converted into cash. They include seeds, some livestock, and supplies.

i) **FIXED ASSETS** - Are those with a long life and are practically impossible to convert to cash to meet short-term or current obligations. They include, the buildings, lands, permanent improvements, dairy cattle, breeding stock etc.

Liabilities are classified as follows:

i) **CURRENT** – Are debts that are due for payment that will be due for payment within a very short period.

ii) **MEDIUM TERM** - Include debts incurred on the basis of crops in the process of production or on poultry and other livestock which- will be ready for sale after the production season. They are debts incurred based on a medium-term ability to pay or repay.

iii) **LONG TERM** – Include mortgages which take a long term to liquidate and other long-term debts.

Self-Assessment Exercise 2: Explain the following classifications of assets:
(i). Current
(ii) Intermediate/Working capital
(iii) Fixed assets.

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 Liabilities Current: Current:	
Cash on hand and Deposit Operating loans	
Accounts Receivable Accounts payable	
Grains and Forage Cash advance payment	
Market livestock Accrued Interest	
Investment in growing crops Current	portion of intermediate
Debts	
Marketable securities Current portion of	long term Debt
Other current assets	
Total current Assets Total current liabilities	
Intermediate: Intermediate:	
Machinery and Equipment	
Breeding Stock Subtotal intermediate debts	
Other intermediate Less current problem of	intermediate debt
Total Intermediate Asset Total intermediate	debts
Long Term: Long term:	
Land Sub total long-term debts	
Buildings Less current portion of long term	debts
Non farm real estate Total long term debts	
Other long term Total liabilities	
Total long term assets Networth	
Total Assets Total liabilities + Networth	

4.4 Conclusion

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

4.5 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
- Networth = Assets - Liabilities

4.6 References/ Further Readings

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.

4.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Self-Assessment Exercise 1: Explain balance sheet statement.

Balance sheet statement is also called financial statement. It is a summary of the financial position of the farm business at a specific point in time. It is a systematic listing of all the assets and liabilities of the business. Its purpose is to reveal the liquidity and solvency of the business at that particular moment. So, an important part of the balance sheet in the date on which the record was made. The balance sheet statement is also called the Net-worth statement. It is arranged in 2 parts, the values of which are equal.

--- Liabilities
---- Assets
Liabilities represent what the business owes to the other person. While Assets represent the value of all the items owned by the business. Liquidity refers to the ability of the business to pay its debts especially on the short run. While solvency is the ability of the business to meet its financial obligations over a long run. Both the assets and the liabilities "must" balance i.e. they must be equal and the balancing is achieved by a third concept the Net-worth which is defined as the contribution of the owner of the business to the business or more technically "as what the business owes its owner". Assets = Liabilities + Net-worth

Self-Assessment Exercise 2: Explain the following classifications of assets:
(i). Current
(ii) Intermediate/Working capital
(iii) Fixed assets.

CURRENT ASSETS- include those items of the business that are either cash or that can be transformed into cash within one production period. They include such as cash, saving/current accounts deposit, account receivables (i.e. credits or payments expected within one production period), Goods that are finished and ready for sale over one year.
INTERMEDIATE/WORKING ASSETS - Are those which can within a relatively short period of time be converted into cash. They include seeds, some livestock, and supplies.

FIXED ASSETS - Are those with a long life and are practically impossible to convert to cash to meet short-term or current obligations. They include, the buildings, lands, permanent improvements, dairy cattle, breeding stock etc.

UNIT 5 PROFITS AND LOSS ACCOUNT AND THE CASH FLOW STATEMENT

5.1 Introduction
5.2 Learning Outcome
5.3 Main Content
5.3.1 Profit and Loss Account
5.3.2 Cash Flow Statement
5.4 Conclusion
5.5 Summary
5.6 References and Further Readings
5.7 Possible Answer To Self-Assessment Exercise(S) Within The Content

5.1 Introduction

Hello noble students, I welcome you to unit 5 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we 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. Also an asset is anything of value owned by a business concern. While a liability is a claim against a farm.
Networth = Assets – Liabilities. In this unit we shall talk about profit and loss account and the cash flow statement. 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.

5.2 Learning Outcome

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.

5.3 Main Content

5.3.1 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, 2017

Purchases and expenses		Sales and receipts	
Opening Valuation		Sheep	
Sheep		Goat	
Goat		Yams	25,000
Seed		Cocoa	28,800
Fertilizer		Maize	20,000
Cocoa trees	25,000	Melon	45,000
Sprays	41,000	Produce consumed	19,800
Maize	4,000	Miscellaneous receipts	10,400
Yam	12,000	Total receipts	15,800
Melon	85,000		11,200
	3,500		186,000
	8,800		
	5,400		
	6,600		
Total opening valuation	191,300	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	8,800
Depreciation	50,000	Total closing valuation	210,000
Veterinary services and drugs	7,200		
Total Expenses	296,000		
Farm Profits	100,000		
	396,000		396,000

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.

Self-Assessment Exercise 1:
Explain what you understand by profit and loss account.

5.3.2 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 on 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

Self-Assessment Exercise 2:
Explain cash flow and its usefulness

5.4 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.

5.5 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.

5.6 References/ Further Readings

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

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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 interprete farm business plans. Manitoba Agriculture and food farm plan. University of Maniloba press.

5.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1: Explain what you understand by 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.

Self-Assessment Exercise 2: Explain cash flow and its usefulness

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 on monthly basis.

UNIT 6 FARM BUSINESS ANALYSIS

Unit Structure

6.1 Introduction
6.2 Learning Content
6.3 Main Content
6.3.1 Liquidity
6.3.2 Solvency
6.3.3 Profitability
6.3.4 Efficiency
6.4 Conclusion
6.5 Summary
6.6 References/ Further Readings
6.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

6.1 Introduction

Hello noble students, I welcome you to unit 6 of the 2nd Module of this Course AEA310 Farm business organization. In the last unit we learnt that the income statement lists the income and expenses of a farm business over a period of time called the accounting period. Also the cash flow projection estimates the flow of revenue into the farm business and the flow of expenditures out of the business. In this unit we will look into the farm business analysis. 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 it 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 asses 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 made 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.

6.2 Learning Content

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.

6.3 Main Content:

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.

6.3.1 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. It 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.

Debt structure ratio = Current liabilities / 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 (also called "Acid test ratio") are liquidity ratios which measures the capacity of the farm to meet its short term obligations. The quick ratio is given by

$$\frac{\text{Current assets - Inventories}}{\text{Current liabilities}}$$

Inventories refer to stocks of goods that are ready for sale. The quick ratio or acid test ratio is a more severe test than the current ratio. This shows whether the farm can meet its current obligations without any reliance on the inventories. The quick ratio is therefore a better ratio in determining the ability of the farm to meet its current obligations. 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, Networth = Total Assets - 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.

Leverage Ratio = Total Debt
Networth

ii. SOLVENCY RATIO

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

Solvency = Total debt
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

i. 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

Return on Asset Net farm income + interest expense - labour X 100
Total farm Assets (average) 1

ii 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

Return on equity = Net farm income - labour X 100
Farm equity (average) 1

iii **EXPENSE /RETURN RATIO**

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

$$\text{Expenses / Return Ratio} = \frac{\text{operating expenses}}{\text{Value of farm production}} \times \frac{100}{1}$$

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.

h) 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.

Self-Assessment Exercise 1: Explain the following:

Solvency

ii) Liquidity

iii). Current ratio

iv). Working capital.

2. State the relevance of farm business examination.

6.4 Conclusion

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

6.5 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

6.6 References / Further Readings

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.

6.7 Possible Answer To Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1: Explain the following:

i) Solvency
ii) Liquidity
iii). Current ratio
iv). Working capital

i). SOLVENCY

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

ii) 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.

iii). CURRENT RATIO

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

Current ratio = Current assets
Current liabilities

Agricultural lenders generally like a current ratio of at least 2:1. It 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.

iv). 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.

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.

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

Unit Structure

1.1 Introduction
1.2 Learning Content
1.3 Main Content
1.3.1 Meaning and Scope of Farm Resources
1.3.2 Rewards for Using Farm Resources
1.4 Conclusion
1.5 Summary
1.6 References/ Further Readings
1.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

1.1 Introduction

Hello noble students, I welcome you to unit 1 of the 3rd Module of this Course AEA310 Farm business organization. In the last unit we learnt that farm Business analysis can be carried out using the following four major indicators: Liquidity, Solvency, Profitability and Efficiency. In this unit, you will get more acquainted with what farm resources are, how they are acquired and used in the most efficient manner.
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.

1.2 Learning Content

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.

1.3 Main Content

1.3.1 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.

1.3.2 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 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 the fails by recording a loss or poor performance, he is given a "Stick" in form of query, dismissal, warning or demotion.

Self-Assessment Exercise 1:
What are the rewards for using land, labour, capital and entrepreneur?

1.4 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

Self-Assessment Exercise 2
Explain the meaning and scope of farm resources.

1.5 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.

1.6 References /further reading

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.

1.7 Possible Answer To Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1: What are the rewards for using land, labour, capital and entrepreneur?

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

Land	-	Rent
Labour	-	Salaries and Wages
Capital	-	Interest
Management/Entrepreneur		Profit

Self-Assessment Exercise 2: Explain the 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.

UNIT 2 METHODS OF ACQUIRING FARM RESOURCES

Unit Structure

2.1 Introduction
2.2 Learning Outcome
2.3 Main Content
  2.3.1 Methods of Acquiring Land
  2.3.2 Method of Acquiring Labour
  2.3.3 Methods of Acquiring Capital
  2.3.4 Methods of Acquiring Entrepreneur
2.4 Conclusion
2.5 Summary
2.6 References/ Further Readings
2.7 Possible Answer To Self-Assessment Exercise(S) Within The Content

2.1 Introduction

Hello noble students, I welcome you to unit 2 of the 3rd Module of this Course AEA310 Farm business organization. In the last unit we learnt that resources are often called factors of production. That 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 and Management/entrepreneur is profit. In this unit we shall discuss the methods of acquiring farm resources. 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.

2.2 Learning Outcome

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.

2.3 Main Content

2.3.1 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

2.3.2 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.

2.3.3 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”

2.3.4 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.

Self-Assessment Exercise 1:

Explain the methods you can use to acquire land, labour, capital and management

2.Mention any 4 examples of informal credit sources.

2.4 Conclusion

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

2.5 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

2.6 References /Further Readings

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.

2.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Self-Assessment Exercise 1: Explain the methods you can use to acquire land, labour, capital and management.

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

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.

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"

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.

2. Informal sources include friends, neighbours, relations, husbands, wives, isusu groups.

UNIT 3 USES OF FARM RESOURCES

Unit Structure

3.1 Introduction
3.2 Learning Outcome
3.3 Main Content
    3.3.1 Uses Of Land
    3.3.2 Uses Of Labour
    3.3.3 Uses Of Capital
    3.3.4 Uses Of Management
3.4 Conclusion
3.5 Summary
3.6 References/ Further Readings.
3.7 Possible Answer To Self-Assessment Exercise(S) Within The Content

1.1 Introduction

Hello noble students, I welcome you to unit 3 of the 3rd Module of this Course AEA310 Farm business organization. In the last unit we 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. While capital could be acquired through formal and informal sources and management could be acquired through selection process either on permanent basis on a contract basis. In this unit we shall look into the uses of farm resources.

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.

3.2 Learning Outcome

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.

3.3 Main Content

3.3.1 Uses of Land

Land like the other factors of production differs from one another in nature, fertility and productivity but cannot be created by man. Its qualities have been called “the original and indestructible powers of the

soil", Land is used for a variety of purposes like production of crops and animals including fisheries, forestry, building and playground and so on. As it is demanded for multiple purposes, its demand exceeds the supply. In general terms, efficient use of the land in areas where land is costly and in limited supply can be achieved by growing more profitable crops or rear animals with high gross margin. Farmers can also practice multiple cropping or even mixed farming and can reduce the length of fallow period by applying fertilizers to the land.

3.3.2 Uses of Labour

Labour refers to all human efforts of the body or mind, undertaken in the expectation of reword. This means any work whether mental or manual, undertaken for monetary reward is labour.

Labour may also be defined as all human effort which may be physical or mental, skilled or unskilled used in the production process. Labour as a factor of production involves human being. The rewards for the use of labour are wages and salaries. Labour in combination with other factors of production is utilized to produce product. Labour is almost the most difficult among the factors of production to deal with because it involves man. The person drawing more than half of his income by working in agriculture is termed as agricultural labourer.

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.

3.3.3 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.

Capital is an essential factor of production and reduces drudgery. Capital goods like machines and tools enable the labourer to produce more goods and services. The production between the initial and the final stage is made continuous by capital. Production with capital for a reason is called "a roundabout process". It helps to raise the dignity to labour and even unhygienic work can be performed easily. It is a useful tool for capital formation. It is a source to promote technical development of the country.

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.

3.3.4 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 or 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.

Self-Assessment Exercise 1:
Discuss the uses of the farm resources.
What is control?

3.4 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.

3.5 Summary

Dear Students, 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.

3.6 References / Further Readings

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

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.

3.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1: Discuss the uses of the farm resources.

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.

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.

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.

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 or 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.

Control:

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.

UNIT 4 RESOURCE USE EFFICIENCY

Unit Structure

4.1 Introduction
4.2 Learning Outcome
4.3 Main Content
4.3.1 Resource Productivity
4.3.2 Production Efficiency
4.4 Conclusion
4.5 Summary
4.6 References / Further Readings
4.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

4.1 Introduction

Hello noble students, I welcome you to unit 4 of the 3rd Module of this Course AEA310 Farm business organization. In the last unit we 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. While 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. In this unit, we shall discuss resources use efficiency.

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 of 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.

4.2 Learning Outcome

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

4.3 Main Content

4.3.1 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 conceptualize 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 Xi as an individual input factor. Then, partial productivity of input of Xi (APi) is APi = Y/xi

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/ixi
Where i is the weight of input Xi. 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.

4.3.2 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 conditions 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 CoelIi (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 influences technical efficiency of the farmers. Farm distance was also fund 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).

Self-Assessment Exercise 1:
State the relevance of resource productivity.
Explain productive efficiency.

4.4 Conclusion

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

4.5 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.

4.6 References /Further Readings

Battesse 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.

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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.

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Research Consortium, Nairobi Kenya.

4.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: State the relevance of resource productivity.

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.

2. Explain productive 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 conditions 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

UNIT 5 MANAGEMENT OF FARM RESOURCES

Unit Structure

5.1 Introduction
5.2 Learning Outcome
5.3 Main Content
5.3.1 Management of Land
5.3.2 Management of Labour
5.3.3 Management of Capital
5.3.4 Management of The Manager
5.4 Conclusion
5.5 Summary
5.6 References/ Further Readings
5.7 Possible Answer to Self-Assessment Exercise(S) Within The Content.

5.1 Introduction

Hello my dear students, I welcome you to unit 5 of the 3rd Module of this Course AEA310 Farm business organization. In the last unit we learnt that the production process is one whereby some goods and services called inputs are transformed into other goods and services called output. Also that resource productivity is the ratio of total output to inputs.

That there are three types of efficiency: Technical, allocative and economic efficiency. In this unit we shall discuss the management of farm resources. 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.

5.2 Learning Outcome

My dear students, 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.

5.3 Main Content

5.3.1 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.

5.3.2 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
iv. Keep good labour relations
v. Pay wages in relation to the amount and quality of the work done.

5.3.3 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. It 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.

5.3.4 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.

Self-Assessment Exercise 1a:
Discuss the management of land.
What will be your advice when land is limited in supply?

5.4 Conclusion

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

5.5 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.

Self-Assessment Exercise 2:
Highlight ways in which the gross margin per man-hour can be increased.

5.6 References/ Further Readings

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

5.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

Answers:

Self-Assessment Exercise 1:

a) Discuss the management of land.

b) What will be your advice when land is limited in supply?

a) Discuss the 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".

b) What will be your advice when land is limited in supply?

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.

Self-Assessment Exercise 2: Highlight ways in which the gross margin per man-hour can be increased.

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

vi. Produce more per hectare
vii. Choose the right enterprises to produce.
viii. Improve farm layout
iv. Use improved tools and working methods
ix. Keep good labour relations
x. Pay wages in relation to the amount and quality of the work done.

MODULE 4 ECONOMIC CLIMATE AND BUSINESS PROBLEMS IN NIGERIA

Unit 1 Business environment in Nigeria
Unit 2 Business goals and 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

Unit Structure

1.1 Introduction
1.2. Learning Outcome
1.3 Main Content
1.3.1 The Business Environment
1.4 Conclusion
1.5 Summary
1.6 References / Further Readings
1.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

1.1 Introduction

Hello my dear students, I welcome you to unit 1 of the 4th Module of this Course AEA310 Farm business organization. In the last unit we learnt that when land is limited in supply, it is advisable to grow more profitable crops, practice multiple cropping and keep livestock.

Also, that 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. In this first unit of module four we shall discuss about business environment. 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.

1.2 Learners Outcome

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.

1.3 Main Content

1.3.1 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.

1.4 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.

Self-Assessment Exercise 1:
No business, and therefore no farm exists or operates in vacuum. Explain
Mention 4 socio-economic factors affecting farm production.

1.5 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

1.6 References /Further Studies

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

1.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: No business, and therefore no farm exists or operates in a vacuum. Explain.

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.

2. Socio-economic factors:

Price of produce, access to loan, cost of inputs, availability of agro-chemicals etc.

UNIT 2 BUSINESS GOALS AND OBJECTIVES

2.1 Introduction
2.2 Learning Outcome
2.3 Main Content
2.3.1 Business Goals and Objectives
2.3.2 Steps for Setting Goals
2.4 Conclusion
2.5 Summary
2.6 References /Further Readings
2.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

2.1 Introduction

Hello my dear good students of Noun, I welcome you to unit 2 of the 4th Module of this Course AEA310 Farm business organization. In the last unit we learnt that no business and therefore no farm exists or operates in a vacuum. Those 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. In this unit we shall discuss what business objectives are in farm management. Farm 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.

2.2 Learning Outcome

My dear students, 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.

2.3 Main Content

2.3.1 Business Goals and Objectives

Setting of goals is the first step in developing a management plan for the farm business.

The way to get result, make progress and be profitable is to set goals. When you know where you are going and when you want to be there, it is easier to get the job done.

One of the main managerial tasks is to define business goals, 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.

What is a goal?

A goal is a target toward which you are willing to work. It is something you wish to attain and provides direction for planning. The following are good examples:

1. A goal should be specific as to what is to be accomplished. For example, to maximise profit is not specific, but but to increase net farm income N10million by increasing the size of the Poultry farm.
2. Goals should be objective and realistic. Before setting a goal, ask yourself whether it can be attained by you.

3. A goal should be something that will not happen without an effort on your part. If you do not have to make an effort to achieve it, then it is not really a goal.
4. Goals should have deadlines.
5. Be sure that the goals are measurable. If it is net measurable, how will you know that you have achieved it?
6. Set flexible goals that can be altered as conditions change. As conditions change and you learn more about yourself and your capabilities, be ready to revise your goals.

It is also worthy to note that most farms are being operated and managed by families. Different family members will have different goals and some of the families will rank the importance of the goals differently. That is why it is important to develop goals as a group. Goals of all family members should be considered. Successful farm operations are ones where the parties involved -fathers, Sons, daughters and wives work together in setting course for the business.
In family goals, we have the formal and the informal farm family goals.
Four conclusions drawn from farm family goals:

1. Farm families often find it difficult to talk about their goals, rather it is easier for them to rank a list of goals that is gven to them.
2. When the families do indicate their own goals, they will represent diverse areas of interest and those interest will be short lived rather than long run.
3. Goals range widely but there are similarities in the goals shared by many farm families.
4. Indexes such as age, income, net worth and other charactristics affect the importance given to various goals.

Individuals and family goals grow out of needs, interest, past experiences, and values. Some examples of general goals that are shared by almost all farm families are:

i. To have a higher net farm income.
ii. To avoid years of low income or high losses.
iii. To maintain or improve the family's lifestyle.
iv. To increase net worth.
v. To avoid being forced out of farming.

Other general goals expressed by many farm families are:

i. To reduce debt or have no debt obligations.
ii. To have leisure time for personal activities.
iii. To participate in community activities.
iv. To expand the size of farm business.

2.3.2 Steps for Setting Goals

There is no best way in setting of goals. Individuals prefer different approaches in setting of goals.

The following steps will serve as a starting point for the development of your own system according to G. F. Patrick and Brian Blake, (1980):

Set aside definite times for goal setting. For example, you might set aside some time each week to list ideas about possible goals. Then, you might devote a few hours at the beginning of each month to review progress toward goals that have already been set, revise goals, and set new goals based on the ideas listed. Finally, once a year, you might set aside a day to get the entire family and all those participating in the farm operation involved in the goal-setting process.

The next step in setting goals is to assess what you have done in the past. Think about the major decisions that you have made over the last three years; write down the circumstances surrounding that decision. What alternatives did you consider? This process forces you to
consider what your goals have been in the past. Would you make the decision differently today? Have your goals changed?

Consider the alternatives relating to the operation of the farm that are open to you now. This is where you need to be creative; do not let past experiences limit future possibilities. For example, you might eliminate one enterprise from the farm and add another; you might buy 50 acres of land; or you might take a part-time, off-farm job. For each of these alternatives, list what would be required to implement it and what the likely outcome would be. These outcomes indicate
what might be some achievable goals. Next, look at the requirements for each alternative. If you cannot meet those requirements now, you might need short-run goals to meet these requirements.

Now, by reviewing the requirements and outcomes of the alternatives you have listed, develop another list that sets forth your short-run, intermediate-run, and long-run goals. Then examine the relationships between these goals. For each goal, indicate whether the other goals will help, hinder, or have no effect on its achievement. Are the goals complementary, competitive, or independent?

Ask your spouse and other family members to repeat this same exercise. First, each individual should do this separately. Then call the family together to discuss and identify the areas of agreement and disagreement. Based on these discussions, develop the list of family goals in a form similar to the one illustrated in the worksheet.

Most important step is to take action, starting with those goals which have the highest priority.

Use your goals to help you plan. There are many demands for your time and attention. This listing of your goals will help you set priorities on what to do. As a result, you will reduce frustration; and you will be accomplishing what you most want to accomplish.

Self-Assessment Exercise 1a:
State the strategic objectives in commercial farming.
High light the Four conclusions drawn from farm family goals.
What are the steps you will adopt in setting goals according to G. F. Patrick and Brian Blake, (1980)?

2.4 Conclusion

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

2.5 Summary

In this unit you have learnt that:

- Setting of goals is the first step in developing a management plan for the farm business.
- The goals and 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 goals and objectives for any organization should be clear and numerical so that all its managers have a commonly accepted goal

2.6 References /Further Studies

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

Patrick G. F. and Brian Blake, (1980) *Setting Farm Family Goals*, Purdue University Cooperative Extension Service EC-514, June 1980.

2.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1a: State the strategic objectives in commercial farming.

The objectives in commercial farming include:

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

High light the Four conclusions drawn from farm family goals.

Four conclusions drawn from farm family goals:

1. Farm families often find it difficult to talk about their goals, rather it is easier for them to rank a list of goals that is gven to them.
2. When the families do indicate their own goals, they will represent diverse areas of interest and those interest will be short lived rather than long run.
3. Goals range widely but there are similarities in the goals shared by many farm families.
4. Indexes such as age, income, net worth and other charactristics affect the importance given to various goals.

What are the steps you will adopt in setting goals according to G. F. Patrick and Brian Blake, (1980)?

1. Set aside definite times for goal setting. For example, you might set aside some time each week to list ideas about possible goals. Then, you might devote a few hours at the beginning of each month to review progress toward goals that have already been set, revise goals, and set new goals based on the ideas listed. Finally, once a year, you might set aside a day to get the entire family and all those participating in the farm operation involved in the goal-setting process.

2. The next step in setting goals is to assess what you have done in the past. Think about the major decisions that you have made over the last three years; write down the circumstances surrounding that decision. What alternatives did you consider? This process forces you to consider what your goals have been in the past. Would you make the decision differently today? Have your goals changed?

3. Consider the alternatives relating to the operation of the farm that are open to you now. This is where you need to be creative; do not let past experiences limit future possibilities. For example, you might eliminate one enterprise from the farm and add another; you might buy 50 acres of land; or you might take a part-time, off-farm job. For each of these alternatives, list what would be required to implement it and what the likely outcome would be. These outcomes indicate what might be some achievable goals. Next, look at the requirements for each alternative. If you cannot meet those requirements now, you might need short-run goals to meet these requirements.

4. Now, by reviewing the requirements and outcomes of the alternatives you have listed, develop another list that sets forth your short-run, intermediate-run, and long-run goals. Then examine the relationships between these goals. For each goal, indicate whether the other goals will help, hinder, or have no effect on its achievement. Are the goals complementary, competitive, or independent?

5. Ask your spouse and other family members to repeat this same exercise. First, each individual should do this separately. Then call the family together to discuss and identify the areas of agreement and disagreement. Based on these discussions, develop the list of family goals in a form similar to the one illustrated in the worksheet.

6. Most important step is to take action, starting with those goals which have the highest priority.
Use your goals to help you plan. There are many demands for your time and attention. This listing of your goals will help you set priorities on what to do. As a result, you will reduce frustration; and you will be accomplishing what you most want to accomplish.

UNIT 3 DECISION MAKING

Unit Structure

3.1 Introduction
3.2 Learning Outcome
3.3 Main Content
3.3.1 Decision Making
3.2.2 Steps Involved in Decision Making
3.4 Conclusions
3.5 Summary
3.6 References /Further Readings
3.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

3.1 Introduction

Hello my dear students, I welcome you to unit 3 of the 4th Module of this Course AEA310 Farm business organization. In the last unit we learnt that setting of goals is the first step in developing a management plan for the farm business.

The goals and 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 goals and objectives for any organization should be clear and numerical so that all its managers have a commonly accepted goal. In this unit, we shall discuss the decision making in farm business.
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,

3.2 Learning Outcome

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

3.3 Main Content

3.3.1 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:

3.3.2 Steps Involved in Decision Making

The important steps in the decision-making process are:
1. Identification and definition of problem.
2. Collection of relevant data arid information.
3. Identification and analysis of alternative solutions.
4. Making the decision by selecting the best, alternative.
5. Implementing the decision.
6. Observing the results and bearing responsibility for the outcome.

1. Identification and definition of problem
   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. This may entail deciding how much to produce, how to produce, what to produce and when to produce. Managers face these basic challenges. When managers identify something that are not the way they should be, it becomes a problem. Good problem definition will minimize the time required to complete steps of decision-making process.

2. Collection of relevant data arid information.
   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. Once the problem has been identified and properly defined, the next step is to gather data, information and facts followed by making observation pertaining to the specific problem.
3. Identification and analysis of alternative solutions.
   Evaluate the qualitative effects of each likely solution - Alternative solution will usually have several effects that are hard or impossible to quantity. For such, examine their qualitative effects. Each alternative should be analyzed in a logical and organized manner to ensure accuracy and to prevent some things being overlooked.
4. Making the decision by selecting the best, alternative.
   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.
5. Implementing the decision.
   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.
   6. 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, it necessary, it should also help to improve future decision and to avoid repeating mistakes.

7. Observing the results and bearing responsibility for the outcome. The manager or the decision maker should be responsible for his actions. The reluctance to bear responsibility may explain why some managers find it difficult to take decisions. But since it is difficult for managers or decision makers not to take decision, then they will be responsible for any decision taken. Careful observations and analysis will result in additional information, allow corrections to be made, and improve future decisions. Managers should always try to learn from their past mistakes. Two important aspects of this control stage are monitoring and evaluation.

Self-Assessment Exercise 1
Highlight the steps involved in decision making process.
Explain decision Making.

3.4 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.

3.5 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.

3.6 References /Further Readings

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3.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: Highlight the steps involved in decision making process.

Highlight the steps involved in decision making process.

The important steps in the decision-making process are:

1. Identification and definition of problem.
2. Collection of relevant data arid information.
3. Identification and analysis of alternative solutions.
4. Making the decision by selecting the best, alternative.
5. Implementing the decision.
6. Observing the results and bearing responsibility for the outcome.

2. Explain 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.

UNIT 4 RISKS AND UNCERTAINTY IN AGRICULTURE

Unit Structure

4.1 Introduction
4.2 Learning Outcome
4. 3. Main Content
4.3.1 Meaning and Scope of Risk and Uncertainty
4.3.2 Sources of Risks and Uncertainty in Agriculture
4.4 Conclusion
4.5 Summary
4.6 References/ Further Readings
4.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

4.1 Introduction

Hello my dear students, I welcome you to unit 4 of the 4th Module of this Course AEA310 Farm business organization. In the last unit we learnt that managers are making decisions almost constantly for if no decisions had to be made, there would be no need for managers. That also decision making is the activity of selecting from among possible alternatives, future course of action. Also that optional decision-making needs rational selection of a course of action. In this unit we shall discuss risks and uncertainty in agriculture.

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

4.2 Learning Outcome

My noble students, 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

4.3 Main content

4.3.1 Meaning and scope of risk and uncertainty

The nature of farm enterprise entails some uncertainties in their production and prices, coupled with uncertainties of availability of inputs. Some of them are measurable in their parameters of probability, yet others

are more or less a random phenomenon that cannot be estimated with any acceptable degree of accuracy.

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 knows 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.

4.3.2 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. Risks from the uncertain natural growth processes of crops and livestock, with typical sources of these risks relating to weather, climate, pests and diseases. Excessive heavy metals in soils or soil salinity will also help in reducing the yield of the crops.

Social and market risks: Such as theft, arson civil commotion. Market risk looks at uncertainty with prices, costs and market access. Means of volatility in agricultural commodity prices include weather shocks and their effects on crop productivity. Energy price shocks and asymmetric access to information are additional sources of market risk. International trade, liberalization, and protectionism are other sources of market risk because they can increase or decrease market access across multiple spatial scales.

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

Political and Institutional risk: This could emanate from the activities of political office holders in form of political instability and frequent changes of agricultural policies, programmes and regulations that effect agriculture. Government may create risk through unpredictable changes in policies and regulations. Sources of institutional risk can also derive from informal institutions such as unpredictable changes in the actions of informal trading partners, rural producer organizations, or changes in social norms that all effect agriculture. Farmers are increasingly supported by and connected to institutions, especially as farm production becomes more market focused.

Personal risk: Personal risk are specific to individual and relate to problems with human health or personal relationships that affect the farm or farm household. Sources of such risk include injuries from farm machinery,

Financial risk: This refers to the risk associated with how the farm is financed. This is defined as the additional variability of the farm's operating cash flow due to the fixed financial obligations inherent in the use of credit. (De Mey *et al., 2016)*. Some sources of financial risk include changes in interest rates or credit availability, or changes in credit conditions.

Self-Assessment Exercise 1
Explain i. Natural ii. Social and market iii. Technological as sources of risk in Agriculture.
Describe Political and Institutional sources of risk.

4.4 Conclusion

All production involves 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.

4.5 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.

4.6 References/ Further Readings

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4.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: Explain the following sources of risk in Agriculture:

i. Natural
ii. Social and Market
iii. Technological

i. Natural elements: such as weather, drought, flood, frost, rainstorm, fire, plants and animal diseases. Risks from the uncertain natural growth processes of crops and livestock, with typical sources of these risks relating to weather, climate, pests and diseases. Excessive heavy metals in soils or soil salinity will also help in reducing the yield of the crops.

ii. Social and market risks: Such as theft, arson civil commotion. Market risk looks at uncertainty with prices, costs and market access. Means of volatility in agricultural commodity prices include weather shocks and their effects on crop productivity. Energy price shocks and asymmetric access to information are additional sources of market risk. International trade, liberalization, and protectionism are other sources of market risk because they can increase or decrease market access across multiple spatial scales.

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

2.Political and Institutional risk: This could emanate from the activities of political office holders in form of political instability and frequent changes of agricultural policies, programmes and regulations that effect agriculture. Government may create risk through unpredictable changes in policies and regulations. Sources of institutional risk can also derive from informal institutions such as unpredictable changes in the actions of informal trading partners, rural producer organizations, or changes in social norms that all effect agru=iculture. Farmers are increasingly supported by and connected to institutions, especially as farm production becomes more market focused.

UNIT 5 RISK MANAGEMENT

Unit Structure

5.1 Introduction
5.2 Learning Outcome
5.3 Main Content
5.3.1 Types of Risk
5.3.2 Measures for Reducing Risk
5.3.3 Practices for Enhancing Good Farm Management And Minimizing Risk.
5.4 Conclusion
5.5 Summary
5.6 References/ Further Readings
5.7 Possible Answer to Self-Assessment Exercise(S) Within The Content

5.1 Introduction

Hello my dear students, I welcome you to unit 5 of the 4th Module of this Course AEA310 Farm business organization. In the last unit we learnt that any decision or course of action is liable to risk or uncertainties if several possible outcomes could arise from it.

That there are natural, social, technological and political risks.
Risk is an important aspect of the farming business. The inherent uncertainties in weather, yield, prices, Government policies, global markets, and others factors that impact farming can cause wide swings in farm income. Risk management involves choosing among alternatives that reduce financial effects that can result from such uncertainties.

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.

5.2 Learning Outcome

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.

5.3 Main Content

5.3.1 Types of Risk.

There are five main types of risk : production risk, price or market risk, financial risk, institutional risk, and human or personal risk.

i. **Production risk**: This arises as a result of uncertain natural growth processes of crops and livestock. Weather, diseases, pests and other factors affect the quality and quantity of commodities produced.

ii. **Price or market risk**: This refers to uncertainty about the prices producers will receive for commodities or the prices they must pay for inputs. The nature of proce risk varies significantly from commodity to commodity.

iii. **Financial risk**: Financial risk results when the farm business borrows money and creates an obligation to repay debt. Rising interest rates, the prospect of loans being called by lenders, and restricted credit availability are also aspects of financial risk.

iv. **Institutional risk**: This result from uncertainties surrounding Government actions. Tax laws, regulations for chemicals use, rules for animal waste disposal, and the level of price or income support payments are examples of government decisions that can have a major impact on the farm business.

v. **Human or personal risk**: This refers to factors such as problems with human health or personal relationships that can affect the farm business. Accidents, illness, death and divorce are examples of personal crises that can threaten a farm business.

Self-Assessment Exercise 1:
Explain the five (5) types of risk in agriculture.

5.3.2 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.

5.3.3 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 enterprise 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.

Self-Assessment Exercise 2:
What are the measures you will adopt in reducing risk in agriculture.

5.4 Conclusion

My dear students, we concluded that risk bearing ability is the ability to survive unexpected low income and unforeseen costs and still stay in business.

That there are five main types of risk: production risk, price or market risk, financial risk, institutional risk, and human or personal risk.
Measure of reducing risk include but not limited to: insurance, diversifications, forward contract, maintaining flexibility and liquidity.

5.5 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.
- There are five main types of risk: production risk, price or market risk, financial risk, institutional risk, and human or personal risk.
- Measure of reducing risk include but not limited to: insurance, diversifications, forward contract, maintaining flexibility and liquidity.

Self-Assessment Exercise 3
What are the practices recommended for enhancing good farm management and risk minimization?

5.6 References / Further Readings

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5.7 Possible Answer to Self-Assessment Exercise(S) Within the Content

Answers:

Self-Assessment Exercise 1: Explain the five (5) types of risk in agriculture.

There are five main types of risk : production risk, price or market risk, financial risk, institutional risk, and human or personal risk.

i. **Production risk**: This arises as a result of uncertain natural growth processes of crops and livestock. Weather, diseases, pests and other factors affect the quality and quantity of commodities produced.

ii. **Price or market risk**: This refers to uncertainty about the prices producers will receive for commodities or the prices they must pay for inputs. The nature of proce risk varies significantly from commodity to commodity.

iii. **Financial risk**: Financial risk results when the farm business borrows money and creates an obligation to repay debt. Rising interest rates, the prospect of loans being called by lenders, and restricted credit availability are also aspects of financial risk.

iv. **Institutional risk**: This result from uncertainties surrounding Government actions. Tax laws, regulations for chemicals use, rules for animal waste disposal, and the level of price or income support payments are examples of government decisions that can have a major impact on the farm business.

v. **Human or personal risk**: This refers to factors such as problems with human health or personal relationships that can affect the farm business. Accidents, illness, death and divorce are examples of personal crises that can threaten a farm business.

Self-Assessment Exercise 2: What are the measures you will adopt in reducing risk in agriculture.

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

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.

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.

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,

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.

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.

Self-Assessment Exercise 3: What are the practices recommended for enhancing good farm management and risk minimization?

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

6. Efficient farm planning and adequate project preparation.
7. Sound inputs procurement arrangement.
8. Adequate resources combination and utilization.
9. Good record keeping
10. Continuous monitoring and evaluation

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

12. Good site selection
13. Procurement of viable seeds and the varieties recommended and suitable for the local environment and soil types.

14. Good plan preparation at proper time to ensure adequate seed germination and crop growth.
15. Planting according to the prevailing crop calendar of operations based on the crop calendar that is applicable to that environment.
16. Using correct spacing, seed rate and plant population.
17. Applying recommended types and rate of fertilizer at the correct time.
18. Embarking on effective weed control.
19. Adopting effective pest and disease control measure.
20. Prompt harvesting after seed maturity and proper drying.
21. Keeping adequate record and ensuring prudent management of finance.

For a livestock enterprise:

9. Select good livestock breeds or parents stock.
10. Purchase breeds from reputable source.
11. Provide good pasture especially for ruminants.
12. Provides good sanitation and housing unit
13. Provide good veterinary services
14. Keep adequate farm records
15. Ensure prudent management of funds.

MODULE 5 AGRIBUSINESSES MARKETING MANAGEMENT

Unit 1 The Agribusiness Marketing System
Unit 2 Agribusiness Marketing Structure, Conduct and Performance
Unit 3 Agribusiness Marketing Margin Analysis
Unit 4 Price Determination in Agribusiness Marketing
Unit 5 Marketing Mix in Agribusiness

UNIT 1 THE AGRIBUSINESS MARKETING SYSTEM

Unit Structure

1.1 Introduction
1.2 Learning Outcomes
1.3 Main Content
1.3.1 Overview of Agribusiness Marketing
1.3.2 Sub-systems in Agribusiness Marketing
1.3.3 Agribusiness Marketing Functions
1.3.4 Agribusiness Marketing Approaches
1.3.5 Agribusiness Marketing Channels and Channels of Distribution
1.4 Conclusion
1.5 Summary
1.6 References
1.7 Possible Answers to Self -Assessment Exercises Within the Content.

1.1 Introduction

Hello students, I welcome you to Unit 1 of Module 5 of this Course AEA310 Farm Business Organization. In the last unit of Module 9, we learnt and noted that farm assets need to be evaluated: that is, their values deduced, and their depreciation calculated. This is in order to be able to know their financial position per time so as to be guided in the assessment of the assets and financial position of the firm. The evaluation techniques may also be useful when we want to dispose of assets or acquire new ones.

In any environment, marketing links two main functions; production and consumption. It involves activities such as assembling, transporting, sorting, cleaning, grading, storing, packing, processing, locating the supplier and consumers, searching for outlets, financing, risk bearing, grading and standardization, etc. It is established that, anytime, anywhere bargain is in process concerning goods and services, marketing is taking place. Marketing is therefore, the process by which buyers and sellers,

producers and consumers of goods and services come in contact with each other for business transaction. Such contact can take different forms; face-to-face, mail, e-mail, phone, telex, or fax.

1.2 Learning Outcomes

In this unit, you will be introduced to:
- what agribusiness marketing entails
- the 4 sub-systems in agribusiness marketing
- various marketing activities
- distribution channels for; basic, industrial and agricultural goods

1.3 Main Content

1.3.1 Overview of Agribusiness Marketing

Key facts to be considered in agribusiness marketing are: what, when, where, how and whom. 'What' is noted in terms of the product or produce. 'When' considered time utility, 'Where' is place utility; agricultural produce have to be taken from surplus region to scarce region. Processing and product transformations are other activities rendered when the form of the produce is considered i.e. 'how'. In order to take personality into consideration, 'whom' should be seriously considered. It is unarguable that consumers always desire to buy goods and services at the lowest possible price whereas farmers and sellers want to sell at highest possible cost, the various firms that are engaged in doing the various marketing tasks are also interested in the profitability of their particular business operation but the overall ruler and coordinator of agribusiness marketing activities in a society is the consumer.

The path that goods take from producer to final consumer is called the marketing channel. The type and complexity of the agribusiness marketing channel varies with different commodities. The direct marketing channel is very simple, from producer directly to consumer. However, most agribusiness products undergo further processing at different levels of the marketing channel and pass through many firms before they reach the ultimate consumer. In the farm supply industry, the farmer is the consumer and the basic manufacturer of farm supplies is the producer. Farm supplies flow from the manufacturer to the farmer in much the same way and with the same marketing functions performed as in the marketing of agricultural products to consumers.

1.3.2 Sub-systems in Agribusiness Marketing

Following Rosson (1974), agribusiness marketing systems consist of 4 main sub-systems; production, distribution, consumption, and regulatory. The key players in the chain of activities that connect food and agriculture are the farmer, (or other 'producers' such as fishermen), intermediaries, the food processors, and the consumer. In practice they each see the agricultural/food marketing system from a perspective of self-interest and these interests are sometimes in conflict.

The farmer's interest is focused on getting the best return from his produce, which usually equates to maximum price for unlimited quantities. Manufacturers want least cost, best quality produce from the farmer so that he can sell it at competitive, but profitable, prices. Traders and retailers want high quality and reliable supplies from the manufacturer or farmer, at the most competitive prices. Consumers are interested in obtaining high quality products at low prices.

1.3.3 Agribusiness Marketing Functions

Agribusiness marketing functions are the activities performed by marketing system in relation to the features of agricultural produce or products enumerated above. It can also be defined as any activity that is performed within or during the entire marketing operation. These functions include assembling the products from various production centres, processing the commodities in the form that will be suitable for consumption, and then making every arrangement to get the commodities distributed to the consumers. These functions are necessary for getting farm products to the consumers when they want them and in the form in which they are desired.

1.3.4 Agribusiness Marketing Approaches

Agribusiness marketing can be studied through three common categories: functional, institutional, and market structure approaches.

Functional Approach/Marketing Services: in carrying out marketing functions, a number of subsidiary or auxiliary supporting services are required. These include: the exchange functions of buying and selling - buyers and sellers co-ordination; the physical functions of transportation, storage, processing, and packaging; and the facilitating functions of grading and standardization, financing, risk bearing, marketing research and the provision of market information. Buying and selling mark the point at which prices are set and transfer of title to goods take place. Buying as a marketing function involves seeking out the source of supply, assembling of products and other activities related to purchase, while

selling involves all activities that are sale related. Selling comprises of decision on proper unit of sale, proper channel of marketing, suitable packaging material, advertisement and sales promotion.

Institutional approach takes into consideration, different agencies involved in carrying out various marketing functions. These agencies or market intermediaries can be categorized into five; merchant middlemen (wholesalers and retailers), agent middlemen (commission agents and brokers), speculative middlemen, facilitative organizations, and processors.

Market structure approach has to do with setting up of market in terms of the degree of concentration, degree of product differentiation, integration and conduct. It refers to certain features of the market which are believed to influence its nature of competition and the process of price formation. These characteristics include: size and number of buyers and sellers ensuring an adequate intensity of price and quality competition; freedom of entry and exit; and adequate size of sellers so as to encourage increased investment.

In analyzing market structure, three common market models are used; perfectly competitive market, oligopolistic market, and the monopolistic market.

1.3.5 Agribusiness Marketing Channels and Channels of Distribution

T
he sequence of intermediaries or middlemen, and markets through which goods pass enroute from producers to consumers is known as market channel. Channel of distribution can be defined as any series of firms or individual who participate in the flow of goods and services from producer to final consumer. The role of distribution in agricultural marketing cannot be over emphasized; for without goods being distributed it has no meaning to the consumers, whatever is produced has to be consumed if the farm or firm wants to continue in operation. Marketing channel may be simple or complex and they are usually commodity specific and region or country determined.

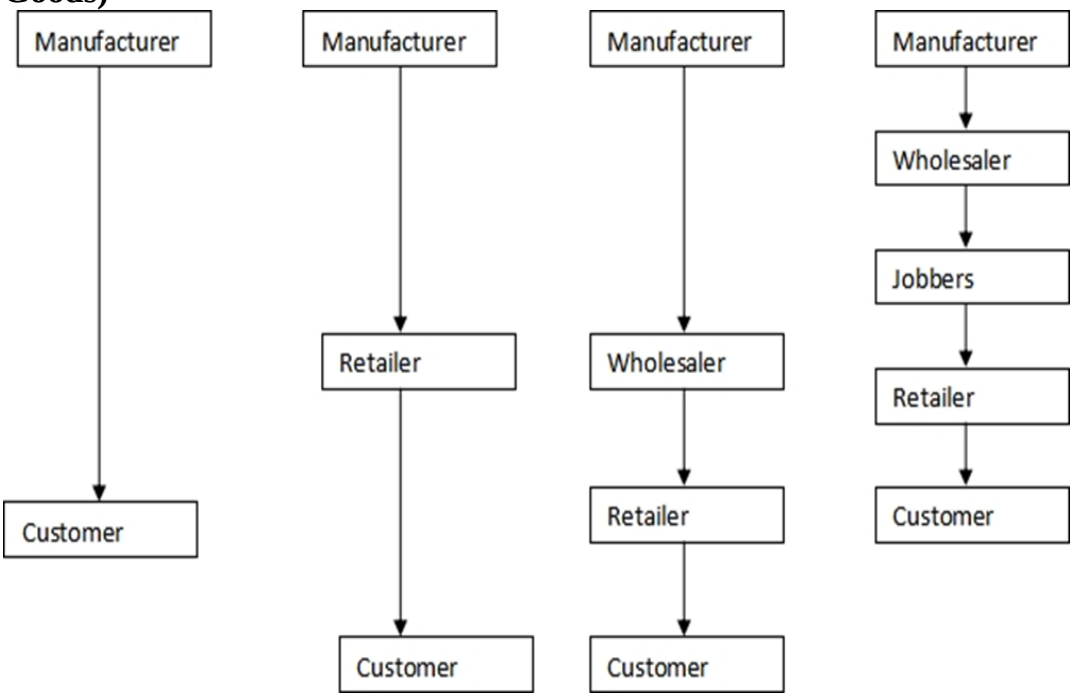
Basic Channels Geometry

Distribution channels can have a number of levels. According to Kotler (1991), the simplest level is that of direct contact with the end users (consumers/customers) without any intermediaries (zero level channel). This can simply be regarded as the direct channel of distribution while the other levels which feature intermediaries can be regarded as indirect channels of distribution. The next level, ‘one level’ channel, features just one intermediary (e.g. in consumer goods, a retailer and in industrial

goods, a distributor), members of the channel are manufacturers, intermediaries and customers or consumers. Specifically, the channels of distribution used for consumer goods are often different from those used for industrial goods. For instance, the selling of industrial goods usually involves manufacturers' agents (regional rep. of manufacturers who sell from samples or catalogues).

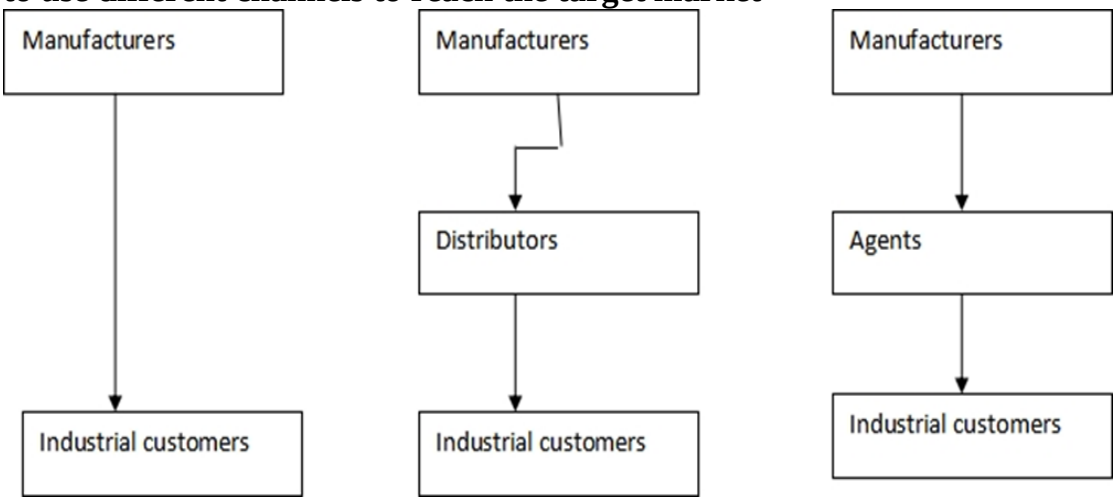
The number of intermediaries determines the channel levels and channels describe a forward movement of product, backward channels can also happen, for instance, the cases of recycling of solid wastes.

Channel Geometry (Consumer Goods)

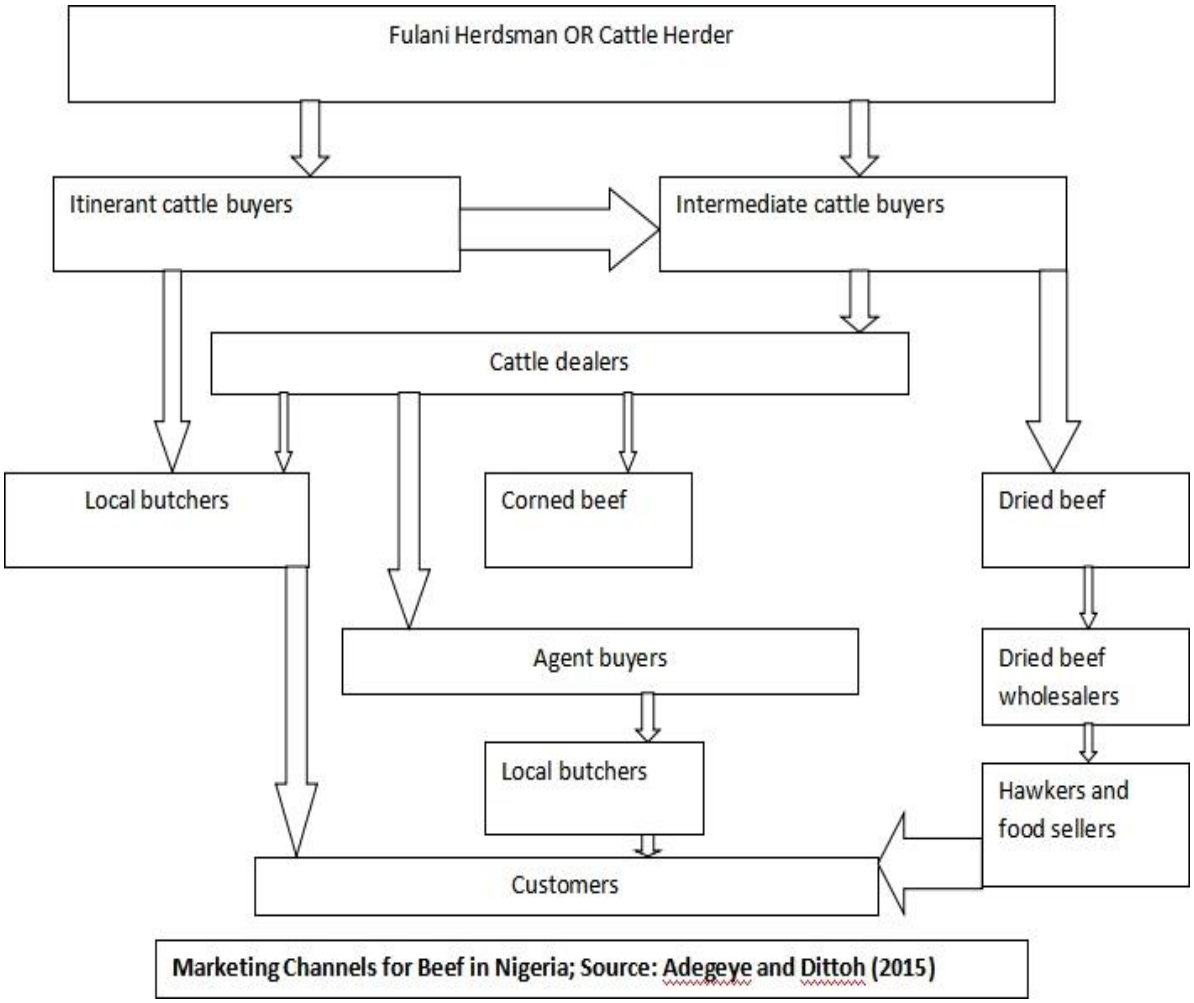


b. Industrial Goods

In the same manner, the producers of industrial goods can also decide to use different channels to reach the target market



a. Channel Geometry for Industrial Goods



In Nigeria, six classes of middlemen have been identified in the agricultural sector, some of them with overlapping function. They are: farm-gate middlemen, commissioned agent, non-commission agent, cooperative marketing agency, the wholesaler, and the retailer. The farm gate middlemen or country buyers include itinerant farmers going on foot from one farm to the other, and wholesale merchants, who buy from two or three markets and then assemble the produce which they now transport to urban areas. Wholesalers have three sub-groups: the wholesaler agent, the wholesaler transporter, and the wholesaler retailer. Together, they perform various marketing functions as outlined earlier. They rarely sell to consumers except where consumers are industrial users.

The retailers also have three sub-groups: the sedentary or stall retailer, the itinerant retailer (hawker) and the farmer-retailer.

The commissioned agent, though an independent operator, does not normally take title from the commodities he handles, he provides contact between the farm-gate middleman and wholesaler and plays an important role in the process of price formation. The non-commissioned agent, however, takes title to the commodity he handles and provides significant transportation and storage facilities. He may sell to a wholesaler, retailer or even a consumer.

Self -Assessment Exercise 1

What is market structure approach?
Write short notes on agric. marketing functions.

1.4 Conclusion

Production cycle is not complete without marketing. Agribusiness marketing activities basically brings both sellers and buyers/consumers of agricultural produce and products together for ease of transaction. In carrying out these activities, the place of sub-systems and distribution channels cannot be overemphasized.

1.5 Summary

In this unit, you have learn:
- the meaning of agribusiness marketing
- the 4-sub systems in agribusiness marketing
- basic agribusiness marketing functions and approaches
- and distribution channels of products and services

1.6 References and Other Sources

Rosson, P. (1974). “Changing Traditional Distribution Systems: Fish Marketing In Tanzania”, Journal of Physical Distribution, (4), pp.305–316

Thomas, D. (2000). Riddles of Market Research; Management Today; Included in Modern Marketing Management.

1.7 Possible Answers to Self -Assessment Exercises Within the Content.

Answers:

Self -Assessment Exercise 1: What is market structure approach?
Market structure approach has to do with setting up of market in terms of the degree of concentration, degree of product differentiation, integration and conduct. It refers to certain features of the market which are believed to influence its nature of competition and the process of price formation.

Agribusiness marketing functions are the activities performed by marketing system in relation to the features of agricultural produce or products enumerated above. It can also be defined as any activity that is performed within or during the entire marketing operation. These functions include assembling the products from various production centres, processing the commodities in the form that will be suitable for consumption, and then making every arrangement to get the commodities distributed to the consumers. These functions are necessary for getting farm products to the consumers when they want them and in the form in which they are desired.

UNIT 2 AGRIBUSINESS MARKETING STRUCTURE, CONDUCT AND PERFORMANCE

Unit Structure

2.1 Introduction
2.2 Learning Outcomes
2.3 Main Content
2.3.1 Market Structure
2.3.2 Market Conduct
2.3.3 Market Performance
2.4 Conclusion
2.5 Summary
2.6 References
2.7 Possible Answers to Self -Assessment Exercises Within the Content.

2.1 Introduction

Hello students, I welcome you to Unit 2 of Module 5 of this Course AEA310 Farm Business Organization. In the last unit, we learnt and noted that production cycle is not complete without marketing. Agribusiness marketing activities basically brings both sellers and buyers/consumers of agricultural produce and products together for ease of transaction. In carrying out these activities, the place of sub-systems and distribution channels cannot be overemphasized.

In the Structure-Conduct-Performance (SCP), market conduct is a function of market structure and conduct determines market performance. Specific actions by agribusiness firms (e.g. price taking, product differentiation, amongst others) involves market conduct. Market structure has to do with the number of competitors in the agribusiness market/industry, similarity or otherwise of produce/products, and the basis for entry and exit; while the performance aspect of agribusiness marketing can be assessed using efficiency indicators and profitability. Understanding of SCP is critical in assessing the behaviour of agribusiness markets and the roles of various actors or stakeholders in the industry.

2.2 Learning Outcomes

In this unit, you will understand:

- agribusiness marketing activities and the associated costs
- marketing margin
- calculation of marketing margin
- relevance of marketing margin in agribusiness marketing management

2.3 Main Content

2.3.1 Market Structure

Market structure refers to those organizational characteristics of a market that exercise strategic control on the nature of competition and behavior within the markets. Market structure also refers to certain features of the market which are believed to influence its nature of competition and the process of price formation. It is important because the structure determine the quality of the firm or farm's performance.

The main elements that make up market structure are as follows:

1. Product differentiation i.e. characterized by substitutes product
2. Buyer and seller concentration per given geographical area or industry
3. Barrier to entry of new firms (complimentary products)
4. Growth rate of market demand
5. Price elasticity of market demand
6. Ratio of fixed to variable costs in the short-run
7. Market channel

In analyzing market structure, the following theoretical market models are often used:

a. Perfect Competition

A state of perfect competition exists when the market price of a commodity is established by forces beyond the control of the individual economic agents in the market. That is, the market agents (sellers and buyers) of the commodity are price takers. The features of a perfect competitive market include; many sellers and buyers, homogenous commodity, absence of artificial restraints, free mobility of resources, and perfect knowledge.

b. Monopoly

This is a market structure in which there is a single firm or producer selling a product for which there is no close substitute. It may take the form of a sole supplier, a unified business organization or separately controlled firm (e.g. former Nigerian marketing board) which combine to market their product.

A monopolistic has the power to determine either (a) the price at which he sells his product, (b) the quantity he wishes to sell. He cannot determine both the price and quantity simultaneously because he cannot control demand. For instance, if he takes the output decision, the price decision is left to be settled by the demand for the product.

c. Monopolistic Competition

This is market structure characterized by numerous firms selling similar but differentiated products, with much effort devoted to non-price competition such as product quality. It is very similar to pure competition except that the product is not homogenous but differentiated.

d. Oligopoly

This is a market with a few firms producing differentiated products and where the action of one firm has a perceptible influence upon his rival. Two types are common; perfect oligopoly (sellers produce homogenous products), and imperfect oligopoly (sellers/firms produce similar but differentiated products).

e. Measures of Market Structure

The main elements that make up market structure include concentration ratio/product differentiation, barrier to entry and market channel.

i. Concentration is one variable of market structure, which affects the behavior of firm participating in the market. Concentration ratio is used to take account of both the number and size distribution of firms in the market: it measures the extent to which the larger sellers control the bulk of the industry's sale. To compute a concentration ratio, firms are ranked in order of size, starting from the largest in the industry. Size is usually measured in terms of sales.

CR = n1 + n2 + n3 + …….ni/N; n = sales for each firm and N = total sales of the firms in the industry.

Herfindachi Index (HI) is usually used to measure concentration. It is computed as:

HI = S12 + S22 …….. + Sn2 i.e. the index is calculated by squaring the % market share of each firm in the market and summing these numbers.

Where Si (market share of firm i) is denoted by: Si = qi/q.

Rem, qi is the output (sales) of firm i. The total output of the firms (q) is given as:

q = q1 + q2 + q3 + q4 + ……qn

The Herrfindahl index (HHI) tells us how concentrated the firm or industry is. When the firm is not concentrated, that is uneven distribution of market shares, there is situation of structurally perfect completion. We therefore have:

1. Extremely high concentration – when the largest four firms accounted for 75% or more of the market share.
2. Highly concentrated, 50 – 74%
3. Moderately concentrated, 25 – 49%
4. Relatively low concentrated, less than 25%

ii. Product differentiation

Product differentiation is intended to distinguish the product of one producer from other producers in the industry. This can be real, when the inherent characteristics of the products are different, or fancied, when the products are essentially the same, yet the consumer is persuaded, via advertising or other selling activities, that the products are different. Real differentiation exists when there are differences in the specification of the products of differences in the factor inputs, or the location of the firm. Fancied differentiation is established by advertising difference in packaging, design or simply by brand name. Whatever the case, the prime aim of product differentiation is to make the products unique in the mind of the consumer.

The effects of product differentiation are that; producer has discretion in the determination of the price, the producer is not a price-taker with little element of monopolistic power, and keen competition of closed substitutes offered by other firms. Product differentiation also provides the rationale of selling expenses. The main means of product differentiation are: product changes, advertising, and salesmanship.

Branding

Product is anything which meets the needs of consumers. When several firms are offering different rival products, they will want to identify and distinguish their particular offering. This is called Branding. A positive or successful brand has name, symbol, design, or some combination which identifies the products of a particular organization as having a sustainable differential advantage. Sustainable means an advantage that is not easily copied by competitors, i.e. the business barriers to entry. E.g. of successful brand names- Dangote, Lever Brothers, etc.

f. How to sustain branding:

- facilitating and making more effective, the consumer's choice process
- quality is number one:- perceived quality is the most important determinant of brand strength. Quality generate high margins in two (a) quality boost market shares (b) it creates differential advantage
- build superior service
- get there first:-pioneering brands earned more than one-third higher returns on investment than late entrants. Five ways of getting there first are: new technology exploitation, new positioning concept, new distribution channels, new market segments, and exploiting gaps created by sudden environmental changes.

- Look for differentiation

iii. Barriers to Entry

Bain (1956) introduced the concept of condition of entry, which he defined as the margin by which established firs can raise their price above the competitive price level persistently without attracting entry.

Symbolically we have

$$E = \frac{PL - PC}{PC}$$

Where E = 'condition of entry'; PL = Limit Price; Pc = Competitive price i.e. price under pure competition in the long-run

The condition of entry 'E' is the premium accruing to the established firms in an industry from charging a price, PL, higher than the pure competitive price, Pc, without attracting entry. An important determinant of the barriers to entry is the lag of entry – the time required for a new firm to be established. The longer the lag, the less the threat of entry and hence the greater the gap between the PL and PC. The lag of entry depends on: product – differentiation barrier, absolute cost advantage, economies of scale, and large initial capital requirement.

2.3.2 Marketing Conduct

Marketing conduct involves certain behaviour of the firm in changing prices, output, product characteristics, selling expenses and research expenditures. Conduct links an industry's structure to the quality of its performance, in fact; market performance is our evaluation of the results of firms' behavior. Market conduct consists of a firm's policies toward its product market and toward the moves made by its rivals in that market.

A market basically functions to determine the price of a product and the quantity which people choose to buy. It also sets the quality of the product, its style or the range of styles offered, and the type and amount of advertising and other such lures, which the firm use to attract customers. These action and reaction constitute market conduct.

Conduct Under Pure Competition

Because of the structural characteristics of the market, the firm cannot easily change their behavior either on price or product or even rivals in the market. The absence of product differentiation means that the firms have no choice to make about the design or style of its product.

Conduct Under Pure Monopoly

One particular combination of price and output makes the seller have maximum profit and any little adjustment either in sizes or colours in which the product comes is an added advantage. The monopolist responds only to general economic currents, not to the challenge of some particular business rivals. He can decide by himself whether or not to be a profit

maximize. He may settle for lesser profit or turn to other goals e.g. increasing size of the firm or his own prestige in the community. He can simply take it easy and not put in the hard work necessary to stay optimally efficient.

Conduct Under Oligopoly

The essence of oligopoly is that firms are few enough to recognize the impact of their action on their rivals and thus on the market as a whole. When one firm cuts its price, it considers the possibility that sales snatched from its rivals may cause them to cut their prices too.

In another view, oligopoly may recognize their inter dependence in the market and decide to cooperate with one another but there may be little fault such as: no agreement on principle; no agreement on details; and no adherence to agreement.

Market conduct also involves (1). Pricing practices which encourage grading and standardization of agricultural commodities (2). Uniformity of market charges (3). Pricing practices free of collusion and unfair or exclusionary tactics as well as black marketing. (4). Pricing policies which encourage product quality improvement and greater consumer satisfaction.

Market Segmentation

Market segmentation is the identification of portions of the market that are different from one another. Segmentation allows the firm to better the needs of its potential customers. The purpose for segmenting a market is to allow your marketing/sales program to focus on the subset of prospects that are “most likely” to purchase your offering. If done properly, this will help to ensure the highest return for your marketing/sales expenditures.

Mass marketing refers to treatment of a market as a homogenous group and offering the same marketing mix to all customers. Target marketing on the other hand recognizes the diversity of customers and does not try to please all of them with the same offering. The first step in target marketing is to identify market segment and their needs.

Requirement of Market Segment

In addition to having different needs, for segments to be practical they should be evaluated against the following criteria:

- Identifiable: the differentiating attributes of the segments must be measurable so that they can be identified.
- Accessible: the segments must be reachable through communication and distribution channels.
- Substantial: the segments should be sufficiently large to justify the resources required to target them.

- Unique needs: to justify separate offerings, the segments must respond differently to the different marketing mixes.
- Durable: the segments should be relatively stable to minimize the cost of frequent changes.

A good market segmentation will result in segment members that are internally homogenous and extremely heterogeneous; that is, as similar as possible within the segment, and as different as possible between the segments.

f. Bases for Market Segmentation

1. In Consumer Market

i. Geographic Segmentation: e.g. of geographic variables often used in segmentation include;

- Region: by continent, country, state or even neighborhood
- Size of the metropolitan area: segmented according to population size
- Population density: often classified as urban or rural
- Climate: according to weather patterns common to certain geographic regions

ii. Demographic Segmentation: some demographic segmentation variables include: age, gender, family size, family lifecycles, household income, occupation, education, ethnicity, nationality, region, social class etc. many of these variables have standard categories of their values.

iii. Psychographic Segmentation: PS group customers according to their lifestyle. Activities, interests, and opinions (AIO) survey are methods for measuring lifestyle. Some psychographic variables include: activities, interest, opinions, attitudes and values

iv. Behavioralistic Segmentation: this is based on actual customer behavior toward products. Some of the behavioralistic variables include: benefit sought, usage rate, brand loyalty, users status (potential, first-time, regular etc), readiness to buy, occasions (holidays and events that stimulate purchases). Behavioralistic segmentation has the advantage of using variables that are closely related to the product itself. It is a fairly direct starting point for market segmentation.

In Industrial Market

i. Location: in industrial markets, consumers' location is important in some cases. Shipping cost may be a purchase factor for vendor selection for products having a high bulk to value ratio; so distance from the vendor may be critical. In some industries, firms tend to cluster together geographically and therefore may have similar needs within a region.

ii. Company type: business customers can be classified according to type as follows: company size, industry, decision making unit, and purchase criteria.

iii. Behavioural characteristics: in industrial markets, patterns of purchase behavior can be a basis for segmentation. Such behavior characteristics may include: usage rate, buying status (potential, first-time, regular etc), purchase procedure (sealed bids, negotiations etc).

2.3.3 Market Performance

Marketing performance is the composite end result or the assessment of how well, process of marketing is carried out and how successful its aims are accomplished. Put differently, it is the economic result that flows from operation of an industry as an aggregate of firms. Marketing performance is concerned with technological progressiveness, growth orientation of agricultural firms' efficiency of resources use, product improvement and maximum market service at the least possible cost.

Self -Assessment Exercise 1

List the main elements that make up market structure.
What is marketing structure.

2.4 Conclusion

SCP describes how agribusiness markets behaves and the differences between them. The environment of agribusiness markets has influence on the market structure which in turn propels performance and this performance can be assessed through margin analysis.

2.5 Summary

In this unit, you have been introduced to:
- the paradigm in SCP
- meaning and application of market structure
- implication of market conduct
- and market performance

2.6 References/Further Reading/Web Resources

Adegeye, S.J. and Dittoh, J.S. Essentials of Agricultural Economics. Revised Edition. Published by New Era Oluji Nig. Ltd., 2015

Bailey, N. and Vayson, L.L (2008). Agricultural Marketing and Price Analysis. Oklahoma State University. Pearson Prentice Hall, Upper Saddle River, New Jersey, Columbus, Ohio.

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Rosson, P. (1974). "Changing Traditional Distribution Systems: Fish Marketing In Tanzania", Journal of Physical Distribution, (4), pp.305–316

2.7 Possible Answers to Self -Assessment Exercises Within the Content.

Answers:

Self -Assessment Exercise 1: List the main elements that make up market structure.

1. Product differentiation i.e. characterized by substitutes product
2. Buyer and seller concentration per given geographical area or industry
3. Barrier to entry of new firms (complimentary products)
4. Growth rate of market demand
5. Price elasticity of market demand
6. Ratio of fixed to variable costs in the short-run
7. Market channel

Market Performance

Marketing performance is the composite end result or the assessment of how well, process of marketing is carried out and how successful its aims are accomplished. Put differently, it is the economic result that flows from operation of an industry as an aggregate of firms. Marketing performance is concerned with technological progressiveness, growth orientation of agricultural firms' efficiency of resources use, product improvement and maximum market service at the least possible cost.

UNIT 3 AGRIBUSINESS MARKETING MARGIN ANALYSIS

Unit Structure

3.1 Introduction
3.2 Learning Outcomes
3.3 Main Content
3.3.1 Marketing Costs
3.3.2 Margin Analysis
3.4 Conclusion
3.5 Summary
3.6 References / Further Reading
3.7 Possible Answers to Self -Assessment Exercises Within the Content.

3.1 Introduction

Hello students, I welcome you to Unit 3 of Module 5 of this Course AEA310 Farm Business Organization. In the last unit, we learnt and noted that structure, conduct and performance (SCP) describes how agribusiness markets behaves and the differences between them. The environment of agribusiness markets has influence on the market structure which in turn propels performance and this performance can be assessed through margin analysis.

Agribusiness activities involves costs to be incurred and expected revenue. Costs are crucial in determining the profitability of an agribusiness firm and the margin. Each agribusiness activity is associated with a cost; for instance, advertising cost, labour cost, rental cost, among others.

3.2 Learning Outcomes

In this unit, you are expected to be introduced to;

- agribusiness marketing activities and the associated costs
- marketing margin analysis and examples

3.3 Main Content

3.3.1 Marketing Costs

Marketing costs are incurred when commodities move from the farm to the final market, whether they are moved by farmers, intermediaries, cooperatives, marketing boards, wholesalers, retailers or exporters. With increased urbanization and industrialization, marketing costs tend to

increase relatively to the farm gate price received by the farmer, i.e. the product moves greater distances, through more intermediaries and is more sophisticated in its packaging. Marketing costs can also reflect the state of a country's development in that as standards of living increase, smaller proportions of income are expended on raw products of the farm and greater proportions are spent on additional and improved marketing services. Increasing the value added means, among other things, that more people in developed countries are involved in marketing agricultural products than in producing them.

Marketing costs include labour, handling, transport, product losses, storage costs, processing costs, capital costs, packaging, containers, rent, utilities (water and energy), advertising, selling expenses, depreciation allowances and interest charges. Marketing costs vary from commodity to commodity and product to product. There are several factors that individually or collectively account for these differences. These include:
the more waste the greater the proportion of customers' expenditure which goes on marketing costs the more perishable the product the greater the marketing costs the more processing of the commodity the greater the marketing costs the greater the amount of produce handling and transportation the greater the marketing costs.

3.3.2 Margin Analysis

Marketing margin can be defined as a price of collection of marketing services demanded by consumers and supplied by the middlemen. It is also the cost of marketing activities involved in provision of marketing services. Marketing margin is the difference between the price received by the producers and the price paid by the consumers. The services of the various agents in a marketing channel are rewarded out of the margin. If the analysis indicates the exploitation by market intermediaries in terms of excessive margins, it helps policy makers to bring in some changes in the marketing system. Be that as it may, high margins can often be fully justified by the costs involved; this is perhaps, an indication that high margin do not necessarily imply exploitation in some cases. The size of marketing margin on the various agricultural products is influenced by the following:
amount of processing involved
the unit value of the product
the quantity of the product
the perishability of the product
There are two presentation of marketing margin. They are:
Percentage margin
This relates cost of marketing and production at a particular time.

$$\frac{Mm}{\text{Retail price}} \times 100$$

Nominal Margin (Cash Margin)
Cp – Pp = Mm
Where Cp = consumer price or retail price
Pp = producers price of farm gate price
Mm = Marketing margins

Self -Assessment Exercise 1
What is marketing margin?
What factors influence marketing margin in agric. production?

3.4 Conclusion

Estimation of the marketing margin helps us to know the degree of efficiency of the marketing system. The value of marketing margin (in %) can be high or low; if the former, it can be used to argue that farmers or consumers are being exploited.

3.5 Summary

In this unit, you have learnt the following:
- examples of agribusiness marketing activities
- meaning of marketing margin
- steps in calculating marketing margin
- relevance of marketing margin in agribusiness

3.6 References / Further Reading

Adegeye, S.J. and Dittoh, J.S (2015). Essentials of Agricultural Economics. Revised Edition. New Era Oluji Nig. Ltd.

Kohls, R.L. and Uhl, J.N. (1990). Marketing Of Agricultural Products, 6th edition, New York, Macmillan Publishing Company pp. 18–21.

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Waite, W.C. and Harry, C.T (1951). Agricultural Market Prices. 2nd ed. New York; John Wiley and Sons.

3.7 Possible Answers to Self -Assessment Exercises Within the Content

Self -Assessment Exercise 1: What is marketing margin?

Answer:

Marketing margin can be defined as a price of collection of marketing services demanded by consumers and supplied by the middlemen. It is also the cost of marketing activities involved in provision of marketing services. Marketing margin is the difference between the price received by the producers and the price paid by the consumers.

Self -Assessment Exercise 2:

Answer:

The size of marketing margin on the various agricultural products is influenced by the following:

amount of processing involved
the unit value of the product
the quantity of the product
the perishability of the product

UNIT 4 PRICE DETERMINATION IN AGRIBUSINESS MARKETING

Unit Structure

4.1 Introduction
4.2 Learning Outcomes
4.3 Main Content
4.3.1 Price Decision and Determination
4.3.2 Price Instability
4.4 Conclusion
4.5 Summary
4.6 References/ Further Readings
4.7 Possible Answers to Self -Assessment Exercises Within the Content.

4.1 Introduction

Hello students, I welcome you to Unit 4 of Module 5 of this Course AEA310 Farm Business Organization. In the last unit, we learnt and noted that estimation of the marketing margin helps us to know the degree of efficiency of the marketing system. The value of marketing margin (in %) can be high or low; if the former, it can be used to argue that farmers or consumers are being exploited.

Price is the regulator of the economic system because it influences the prices paid for all factors of production and the allocation of these factors. It influences the wages paid to workers, the rent a firm pays and the profit a firm makes. The market demand of an item is dependent on the price of the product. The price of a product also affects the marketing program of a firm.

4.2 Learning Outcomes

In this unit, you are expected to learn:

- meaning of price
- how to make decision on agribusiness price
- price determination in agribusiness
- meaning of price instability and steps to calculating price instability in agribusiness

4.3 Main Content

4.3.1 Price Decisions and Determination

According to Stanton (1981) price can be defined as the amount of money (plus possibly some goods) which is needed to acquire in exchange for some combined assortment of a product and its accompanying services. Succinctly, price is the exchange value of a product.

Agribusiness price is made possible in two ways:
Price impacts revenue as component of the revenue (R) equation (R = price X quantity sold).

The price level affects the quantity sold, through its effect of demand relationships for the product or service.

These two situations can give rise to some complications; lower prices produce less income per unit sold, but usually generate an increase in quantity sold (sales volume). Consequently, increased sales mean that fixed costs are spread over more units; therefore, per unit costs may be reduced, at least to a point. The net result is that pricing decisions become a real challenge to agribusiness managers.

A firm may determine the price of its product in several ways: cost pricing, return on investment (ROI) pricing, competitive pricing, contribution-to-overhead (CTO) pricing, penetration pricing, skimming the market, discount pricing, loss-leader pricing, psychological pricing, and prestige pricing.

Cost pricing: cost-based pricing, or cost plus pricing, is a simple way of determining price by adding a constant margin to the basic cost of the product or service. This margin is intended to cover overhead and marketing or handling costs, and leave a profit. This method of price determination is common, especially for the retailing of large numbers of products.

ROI pricing: ROI pricing is similar to the cost-plus pricing, as it also begin with the product price, but rather than adding fixed or overhead costs, this method adds an amount sufficient to earn a specified ROI. For example, an agribusiness firm calculates how much profit will be needed to earn 10 percent ROI. Then, assuming a reasonable sales volume, it estimates costs and calculates the total revenue that must be generated. Finally, the total revenue is divided by the estimated sales to suggest the necessary percentage that the product must be marked up.

Competitive pricing: competitive pricing method base price on competitors' prices. This method simply sets price at the "going rate", according to some general or common average, or follow the lead of a competitor. In this method, the price must not always be the same as competitors' price; a price may be strategically held above or below that of competitors.

CTO pricing: this is a method that encourages extra sales by selling additional product above and beyond sales projection, at some price slightly greater than the additional out-of-pocket costs of handling the product. This method of pricing is also called marginal-cost pricing; it ignores the fair share of the overhead cost that could be borne by the additional product.

Penetration pricing: this pricing strategies consist of offering a product at a low price in order to get a great deal of exposure to gain wide acceptance speedily. These strategies are mostly used to introduce new products into a market, particularly price-responsive products that must sell in large volume to reduce costs. After the necessary acceptance by consumers, the price of such product may be gradually raised to a more profitable level.
Skimming the market: skimming the market is almost the opposite of penetration pricing. Skimming involves introducing a product at a high price for more affluent customers. Then, as this relatively limited market becomes saturated, the price is gradually lowered, bringing the product into range for less affluent customers.

Discount pricing: Discount pricing offers customers a reduction from the published or list price for some specified reason(s). The volume discount are common among agribusinesses. Their purpose is to encourage larger purchases, which reduce per unit costs and promote more sales.

Price Flexibility: price flexibility implies the willingness of the seller to cut price to hold a market share. Under this policy, a seller may decide whether to adopt a one-price policy or a variable price in the market.

A one price policy is when the firm charges the same price to all customers or allowing the same discount. This system is commonly used in the chain stores, Department shops. Put differently, a one-price policy consists of offering like goods for sale at a given time at one price to all similar buyers who purchase in similar comparable quantities.

The advantages of this policy are: it builds customer confidence in a seller; weak bargainers need not feel that they are a competitive disadvantage; and it saves the time of the salesman and reduces haggling.

A variable price policy is used when a company sells similar quantities to similar buyers at different prices. Under this policy the price is usually set as a result of bargaining. In terms of merit, the seller may want to give a buyer a better deal because the customer shows promise of becoming a large-scale buyer in the future. However, the policy generates ill-will when the word gets around that some buyers acquired the product at lower prices.

Cash and Quantity Discounts Policies: cash discount is a deduction granted to buyers for paying their bills within a specified period of time. A typical example would be "2/10,net 30", which means that the payment is due within thirty days but the buyer can deduct 2% from the cost by paying the bill within ten days. Three elements are present in cash discounts; percentage deduction, time period of payment to be eligible for the discount, and the number of days after which the bill is overdue.

A quantity discount is an offer of a price reduction to buyers who buy larger volumes. In quantity discount, the price will vary according to the quantity bought on the basis that transport cost, administration and so on will be proportionally higher and smaller deliveries that on large ones.
Advantages of quantity discounts are: tie customers very closely to a seller; help the seller to encourage a customer to buy fresh supplies frequently so that merchandise will not grow stale; and help manufacturer effect real economies in production and selling. This is because large orders can result in the cover cost of production.

4.3.2 Price Instability

Literally, price instability implies unstable price. Mohammed (2015) defined price instability as the state in which the prices continue to change over time and space. Fluctuations in prices are associated with varying length of time as a result of various factors. The length of fluctuation could be cyclical variations (long-term price variations), seasonal variations (short-term price variations), and random variations (irregular variations).

Variations in agricultural prices can be measured using graphical and quantitative approach. Quantitatively, statistical tools such as range, standard deviation and coefficient of variation are usually applicable.

$$\text{Coefficient of Variation (CV)} = \frac{SD}{Mean\ of\ Price\ variable} * 100$$

Where SD = Standard Deviation ➔ $\sqrt{variance}$

$$\text{Variance} = \sum_{i=1}^{n} (p_i - \bar{p})^2/n-1$$

Decision: the greater the coefficient of variation (CV), the greater is the price instability. The CV of price above 5% implies great instability and calls for price stabilization measures.

The formula above is applicable under static condition. Price instability in the situation of rising trend (long-term price instability index) is computed as:

$$I = (1 - R2) \times 100$$

Where; I = the dynamic price instability index, R2 = coefficient of multiple determination.

The calculated price index is usually called dynamic price instability index because it is estimated over time.

Some salient causes of high level of price instability among agricultural produce/products are:
Divergence in planned output and actual yield
Speculative activities of middlemen
Changes in demand and supply
Seasonality in production and marketing.

Self -Assessment Exercise 1
Differentiate between penetration pricing and discount pricing.
What is price instability?

4.4 Conclusion

Pricing is critical marketing decision because of its influence on revenue obtained. Agribusiness firms' price differs from individual to individual and the decision to adopt certain pricing principle is influenced by certain factors.

4.5 Summary

In this unit, you have been introduced to:
- agribusiness price
- ways of determining agribusiness price
- how to calculate price instability

4.6 References /Further Readings

Bailey, N. and Vayson, L.L.(2008). Agricultural Marketing and Price Analysis. Oklahoma State University. Pearson Prentice Hall, Upper Saddle River, New Jersey, Columbus, Ohio.

Kohls, R.L. and Uhl, J.N. (1990). Marketing Of Agricultural Products, 6th edition, New York, Macmillan Publishing Company pp. 18–21.

Kotler, P. (1988). Marketing Management: Analysis, Planning, Implementation And Control, Prentice-Hall, New Jersey, p.16.

4.7 Possible Answers to Self -Assessment Exercises Within the Content

Self -Assessment Exercise 1: Differentiate between penetration pricing and discount pricing.

Answer:

Penetration pricing: this pricing strategies consist of offering a product at a low price in order to get a great deal of exposure to gain wide acceptance speedily. These strategies are mostly used to introduce new products into a market, particularly price-responsive products that must sell in large volume to reduce costs. After the necessary acceptance by consumers, the price of such product may be gradually raised to a more profitable level.

Discount pricing: Discount pricing offers customers a reduction from the published or list price for some specified reason(s). The volume discount are common among agribusinesses. Their purpose is to encourage larger purchases, which reduce per unit costs and promote more sales.

Self -Assessment Exercise 2:

Price instability implies unstable price. It is the state in which the prices continue to change over time and space. Fluctuations in prices are associated with varying length of time as a result of various factors. The length of fluctuation could be cyclical variations (long-term price variations), seasonal variations (short-term price variations), and random variations (irregular variations).

UNIT 5 MARKETING MIX IN AGRIBUSINESS

Unit Structure

5.1 Introduction
5.2 Learning Outcomes
5.3 Main Content
5.3.1 The Product
5.3.2 Agribusiness Product Lifecycle
5.4 Conclusion
5.5 Summary
5.6 References/ Further Readings
5.7 Possible Answers to Self -Assessment Exercises Within the Content.

5.1 Introduction

Hello students, I welcome you to Unit 5 of Module 5 of this Course AEA310 Farm Business Organization. In the last unit, we learnt and noted that pricing is critical marketing decision because of its influence on revenue obtained. Agribusiness firms' price differs from individual to individual and the decision to adopt certain pricing principle is influenced by certain factors.

Understanding the marketing mix is important in agribusiness marketing management. It treats the major agribusiness marketing factors which include; Product, Place, Promotion, and Price. Conceptually, marketing mix is defined as the set of controllable, tactical marketing variables that the firm pulls together to produce the response it wants in the target market. It consist of everything the firm can do to influence the demand for its product.

5.2 Learning Outcomes

In this unit, you will learn:
- the 4 Ps of agribusiness marketing
- agribusiness product type
- four stages of agribusiness product

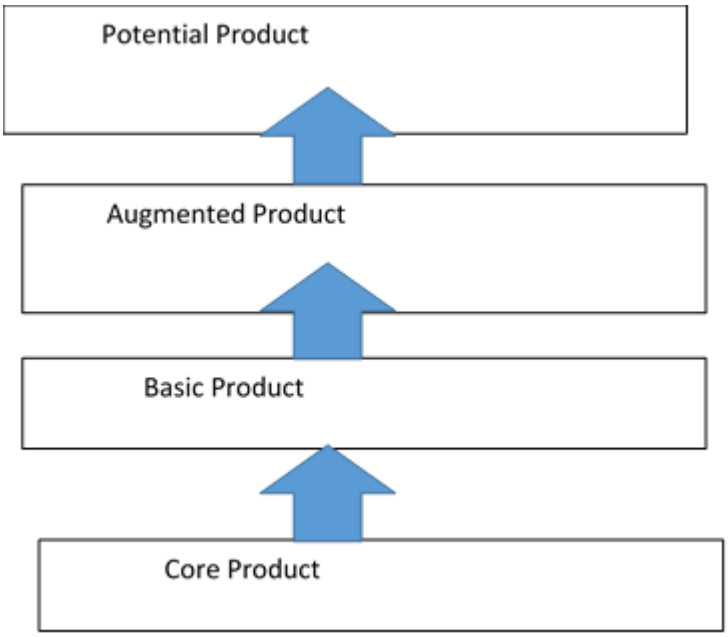
5.3 Main Content

5.3.1 The Product

Products are goods, services, ideas, people, places, and organisations with acceptable value that are offered for exchange. A product can also be defined as the bundle of benefits or satisfaction offered to a customer for

mutual benefit. The key components of a product are; the product itself, the product name (brand), the packaging, and brand properties (colours, composition, et.c).

The main product has three levels as shown below:



The core product is the benefit of the product that makes it valuable to a consumer. It is not the tangible, physical product. The basic or actual product is the tangible, physical product and you can get some use out of it. The augmented product is the non-physical part of the product which usually consists of lots of added value, for which you may or may not pay a premium. Finally, the potential product consists of all the possible augmentation and transformation the product might undergo in the future.

a. Product Types

There are several types of products; but in agribusiness marketing, the focus is on three key categories: consumer products, industrial goods, and services.

Consumer products are goods means for direct consumption by the buyer. This category can further be divided into; convenience products, shopping goods, specialty goods, and unsought goods. Convenience products are goods and services that consumers want to purchase frequently, immediately, and with minimal efforts. The sales of this type of products depends on brand names and prices. Convenience products can be; staples, impulse, and emergency items. Examples of convenience products in agribusiness include snacks, bread, milk, et.c. Shopping goods on the other hand costs more than convenience products and consumers usually buy them only after comparing competing stores on such characteristics as price, quality, style, and colour. Examples of shopping

goods in agribusiness are forestry products such as furniture; animal products such as clothing and shoes. Specialty products offer unique characteristics that cause buyers to prize those particular brands. These products typically carry high prices, and many represent well-known brands. A product that is unknown to the buyer or a known product that is not actively sought for is an unsought product. Consumers do not seek out for these products until they are made aware of or need the products. Industrial goods are goods meant for the production of other goods either by repackaging or reprocessing. Some of these goods in agribusiness include; raw materials, semi-processed goods, and consumables. Raw materials are farm products such as beef, cotton, eggs, milk, poultry, and soya beans, among others. They also include natural resources such as coal, copper, iron ore, and lumber.

Services are intangible services offered to the customer and public. They are usually made tangible with physical goods and items.

5.3.2 Agribusiness Product Life Cycle

An agribusiness product life cycle is based upon the biological life cycle. For instance, a seed is planted (introduction); it begins to sprout (growth); it shoots out leaves and puts down roots as it becomes an adult (maturity); after a long period as an adult the plant begins to shrink and die out (decline). After a period of development, a new product is introduced or launched into the market; it gains more and more customers as it grows, eventually the market stabilizes and the product becomes mature; then after a period of time the product is overtaken by development and the introduction of superior competitors, it goes into decline and is eventually withdrawn.

The introduction stage generally covers the stages of product development till the product is introduced into the market. The initial stages are long but once the product picks up it tends to grow quickly. At this stage, the product is promoted to create awareness.

If the product has no or few competitors, a skimming price strategy is employed.

At the growth stage, the product is getting known and it tends to grow rapidly. Competitors are attracted into the market with very similar offerings. At this stage, products become more profitable and firms form alliances, joint ventures and take over each other.

At the maturity stage the product has defined pattern and discernible presence with loyal customers and defined channels of distribution. At this stage, competition tends to be keen and Managers' action and inaction

may determine the future of the product. During this stage, it is expected that sales grow a decreasing rate and then stabilizes. At this point, the market reaches saturation and producers may begin to leave the market due to poor margins.

During the decline stage, there is a downturn in the market; more innovative products are introduced or consumer tastes have changed. At this stage, there is intense price-cutting and many more products are withdrawn from the market.

Self -Assessment Exercise 1
What do you understand by consumer products?
Write short notes on agribusiness product life cycle.

5.4 Conclusion

Agribusiness firms adopts strategies or actions to promote their brands or products. This strategic move is intended to finding out the right mix or combination of product, price, promotion, and place for efficiency and improved profitability.

5.5 Summary

In this unit, you have been able to learn:
- what marketing mix entails
- the role of marketing mix in agribusiness marketing management
- product types and product lifecycle
- stages to product development

5.6 References/Further Reading/Web Resources

Adegeye, S.J. and Dittoh, J.S (2015). Essentials of Agricultural Economics. Revised Edition. Published by New Era Oluji Nig. Ltd.

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5.7 Possible Answers To Self -Assessment Exercises Within The Content.

Self -Assessment Exercise 1: What do you understand by consumer products?

Answer:
Consumer products are goods means for direct consumption by the buyer. This category can further be divided into; convenience products, shopping goods, specialty goods, and unsought goods. Convenience products are goods and services that consumers want to purchase frequently, immediately, and with minimal efforts. The sales of this type of products depends on brand names and prices. Convenience products can be; staples, impulse, and emergency items. Examples of convenience products in agribusiness include snacks, bread, milk, et.c.

Self -Assessment Exercise 2:
Answer:
An agribusiness product life cycle is based upon the biological life cycle. For instance, a seed is planted (introduction); it begins to sprout (growth); it shoots out leaves and puts down roots as it becomes an adult (maturity); after a long period as an adult the plant begins to shrink and die out (decline). After a period of development, a new product is introduced or launched into the market; it gains more and more customers as it grows, eventually the market stabilizes and the product becomes mature; then after a period of time the product is overtaken by development and the introduction of superior competitors, it goes into decline and is eventually withdrawn.
The introduction stage generally covers the stages of product development till the product is introduced into the market. The initial stages are long but once the product picks up it tends to grow quickly. At this stage, the product is promoted to create awareness.