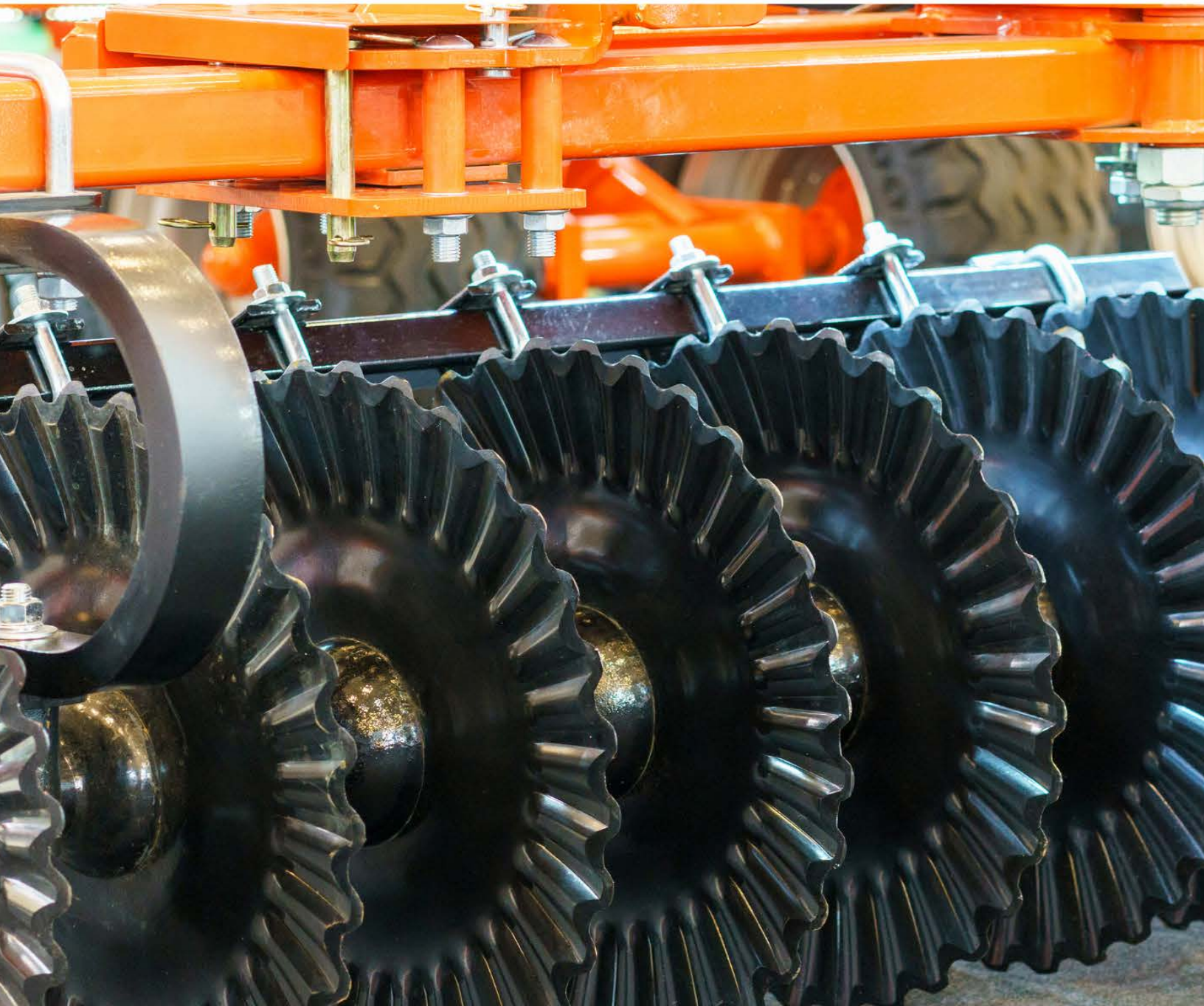


AGRICULTURAL SCIENCE

FOR

Junior Secondary School

3



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JSS3
AGRICULTURAL SCIENCE
FIRST TERM

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Agriculture JSS3 First Term

Week 1 & 2

Topic: Cooperative Societies

Cooperative Societies

An agricultural cooperative society may be defined as a business organization in which a group of individuals who have common interest agreed to pool their financial resources or to distribute goods and services for the purpose of making profit and to maintain the welfare of their members. Cooperative society is owned and controlled by members who may be from two persons to a number which has no maximum.

Objectives of Agricultural Cooperative Societies

1. To make goods and services available to the members at affordable prices
2. To encourage their members form the habit of saving money
3. To assist their members financially by giving them loans with low interest rate
4. To encourage and assist members to acquire assets themselves
5. To save members from embarrassingly high interest rate charged by banks before giving loans

Types of Agricultural Cooperatives

1. Consumer Cooperative Society – This society consists of people who pool their resources together in order to buy goods in bulk from producers. They avoid middlemen so as to get cheaper prices and then distribute to their members
2. Producers Cooperative Society – This is an association which consist of producers of similar products who have come together for the purpose of promoting the production and the sales of their products. Members of the society contribute money to buy or hire equipment at reduced rate to ease production
3. Produce Marketing Cooperative Society – They are mainly concerned with marketing of member's products for their benefit. They engage in purchase, storage, transportation and marketing of agricultural produce like coffee, rubber, and food crops
4. Thrift and Credit Cooperative Society – Members are encouraged to save money together from their savings and money is lent to any member that is in need with little or no interest.
5. Farmers Multi-purpose Cooperative Society – This society combines many functions such as production, processing, storage, transportation, marketing and other service like credit for the benefits of their members.

Importance of Agricultural Cooperative Societies

1. They enable farmers to obtain loans at better terms and conditions than that of commercial banks
2. They improve the status of their members by helping them to acquire personal assets
3. Members can come together to establish a cooperative bank which will develop the economy
4. They encourage members to produce more. The surplus can be exported to earn foreign exchange for the country
5. They promote marketing of produce by carrying out marketing functions
6. They provide capital for economic development

Agricultural Science JSS3 First Term

Week 3

Topic: Management of Agricultural Cooperative Societies

Cooperative Societies

Cooperative societies are managed and controlled by the members. A management committee is elected on a one-member one-vote basis to direct the affairs of the cooperative. It can appoint a manager or president but he or she would be responsible to the committee by-laws or constitution that will guide the cooperative in its activities is developed. A bank account is opened with three signatories drawn from the committee member. Then it is registered with the appropriate body to operate in Nigeria as a cooperative. All members should be involved in the activities of the cooperative society. Meetings are held regularly to take decision on how to improve the activities of society.

Principles or features of Cooperative Societies

1. Membership is open to those who fulfill the terms and conditions stated in the constitution of the society
2. In the principle of democracy is applied to say or suggest how the society should be organized, equal right to vote and to be voted for
3. Trading surpluses are distributed to members as dividends on purchases
4. Fixed interests are paid to member on the basis of capital invested
5. There is political and religious neutrality

Qualities of a good cooperative member

1. A good member should have team spirit. He should be able to cooperate and work with others to achieve the objective of the society
2. He must be dedicated to the course of the society
3. He must be responsible and loyal to the society
4. He must show selfless attitude. He mustn't be selfish
5. He must be honest. Others should be able to trust him and place confidence in him
6. He must be tolerant and ready to respect the view of others
7. He must be fair in his decision making
8. He must be humble and obedient

Problems of Agricultural Cooperative Societies

1. Embezzling of the society's fund by some officials is common
2. Most members are illiterate and they do not understand the principles and benefit of the society
3. Lack of capital has hindered the development and expansion of cooperative societies
4. Individuals may be denied personal initiative which may hinder development of entrepreneurship
5. Poor management resulting from lack of business experience
6. Problem of repayment of loans from beneficiaries
7. The appointment of officials may be influenced by more powerful members
8. Cooperatives sometimes involves themselves with politics which leads to wasteful expenditure

Practice Questions

1. State 4 problems of cooperative societies
2. List 5 qualities of a good cooperative member

Agricultural Science JSS 3 First Term

Week: 4

Topic: Channels of Agricultural Produce

Channels of Distributing Agricultural Produce

A marketing or distribution channel consists of the various routes or pathways through which farm produce move from the producer to the consumer. Market channel is very important because it shows at a glance the various ways through which the farm produce move from the producer to the final consumer.

1. The Producers – These are people who are engaged in production but also sell directly to final consumers
2. Local Market – This is where buyers and sellers are in close contact. The producer brings goods to the market and buyers buy from them
3. Wholesaler and Retailer – The middlemen as they are called are a link through which the farm produce are bought from the producers and sold to the consumers
4. Cooperative Society – They buy goods in large quantities and distribute to their members who are final consumers
5. Commissioned Agents – These are agents who act on behalf of the principal. They buy goods in large quantities and sell to the marketing board or other exporter and then collect their commission.
6. Marketing Board – These are agencies or public corporation set up by the government to buy agricultural produce from the farmers and market them either internally or outside the country. Marketing boards are mainly concerned with the marketing of export commodities such as cocoa, cotton, rubber, groundnut, palm produce and coffee.

Activities taking place at the channels for Agricultural Distribution

- Farm level processing – This involves the transportation of farm produce from their original state to forms which make them consumable or easy to sell
- Grading or Sorting – This involves selecting produce and placing them in groups according to their sizes, weight and quality
- Transportation – This involves the movement of farm produce from the producer or warehouse to the markets. It makes goods produced in one geographical area available in another area are needed by consumers
- Loading – This involves the movement of farm produce from warehouse or point of production into vehicles, train, ship etc and arranged for them to be transported to the market or where they are needed by the consumer

- Off – loading – This involves the movement of goods from the vehicles or train to the warehouse or market
- Packaging – This involves the process of arranging the produce into different packs or easy storage. Sack, drums, tins, bags etc are used for packaging.

Challenges in or Problems of Agricultural Marketing

1. Bulkiness of farm produce – Some farm produce are bulky and difficult to transport e.g cattle, goat, sheep
2. Transportation problems – Bad roads and inadequate transportation facilities prevent the movement of goods from one place to another
3. Problem of perishability – Most farm produce are perishable and are easily damaged
4. Inadequate storage facilities – Farm produce are wasted every year due to lack of storage facilities
5. Poor financing – Buyers do not have enough money to handle farm produce
6. Inadequate Basic Amenities – Amenities such as electricity, pipe borne water and telephone which facilitate marketing of farm produce are not available

Practice Questions

1. ____ are agencies or public corporation set up by the government to buy agricultural produce from the farmers and market them either internally or outside the country.
2. ____ is where buyers and sellers are in close contact
3. ____ involves selecting produce and placing them in groups according to their sizes, weight and quality
4. ____ involves the process of arranging the produce into different packs or easy storage
5. ____ are the middlemen who act as a link through which the farm produce are bought from the producers and sold to the consumers
6. ____ involves the movement of farm produce from warehouse or point of production into vehicles , train, ship

Answers

1. Marketing Board
2. Local Market
3. Grading or Sorting

4. Packaging
5. Wholesalers and Retailers
6. Loading

Agricultural Science JSS 3 First Term

Week: 5

Topic: Agriculture in Stock Exchange

Stock Exchange

Stock exchange is a corporation or mutual organization which provides trading facilities for stock brokers and traders to trade on stock and other securities. It is a market where shares and stock and other securities are bought. The securities traded on stock include shares issued by the companies, units trust, derivatives, pooled department and bonds.

People involved in Stock Exchange

The broker – A broker acts as an agent for firms and/or individuals who want to buy or sell securities. They instruct him to buy or sell stocks and shares on their behalf. They charge commission for the services rendered. They give advice on what type of stock or shares to buy.

The jobbers – These are people who specialize in a particular type of stocks and shares. They acts as middlemen who do not buy or sell securities direct from members of the public but through brokers who act as their agent. The jobbers quote two different prices, one for buying and a higher one for selling. The difference between the jobbers buying and selling price is called the Jobber turn or his profit.

Authorized clerks – These are salaried office workers who are employed by brokers and jobbers. They are called authorized clerks because they have authority to buy and sell securities on behalf of their principals.

Investors – These are people or institute that buys stock or shares for the sake of investment.

Speculators – These are people who buy shares not because of regular income they could obtain but because of the profit they will make from fluctuation of prices. Those who buy hoping the prices would fall are called **Bulls** while those who sell shares because they expect the price to fall are called **Bears**.

Importance of stock exchange in Agriculture

1. It encourages investment in agriculture
2. It helps raise capital for business
3. It encourages cooperative or contract farming
4. It creates investment opportunities for small scale farmers
5. Stock exchange makes long term loans in form of debentures available to commercial farmers

6. It encourages savings as stock and shares bought can be kept and sold in the future
7. It is a means of measuring the wealth of a company
8. It helps to facilitate the growth of companies

Practice Question

A. Explain the roles of the following people

1. Jobber
2. Authorized clerk
3. Speculators
4. Investors

B. ____ is a market where shares and stock and other securities are bought

Answers

A. Jobber – A person who specializes in a particular type of stock and shares. He does not buy or sell directly from members but through stock brokers.

Authorized Clerk – He/she is a person employed by a stock broker or jobber and has the authority to buy and sell on behalf of the principal

Speculator – Someone who buys shares not because of the salary they get but because of fluctuation in prices of shares

Investor – Institute that buy stock for the sake of investment

B. Stock Exchange

Agricultural Science JSS3 First Term

Week 6

Topic: Export Promotion in Agriculture

Export Promotion

Export promotion refers to the collective programmes a country has to help organizations sell their products abroad. In Nigeria, export promotion refers to programmes and activities put in place by public or private sector to encourage the sales of Nigeria produce on other countries. It is a strategy for economic development for a country based on encouraging domestic producer to export their produce to other countries and earn foreign exchange which can be used to purchase other goods not available in the country.

Examples of Nigeria Export Produce

Export crops are crops which are cultivated in Nigeria and at maturity are harvested, processed and packaged for sale to another country.

Major crops are

1. Cocoa – The second major non-oil foreign exchange earner in Nigeria after leather. It is produced in 16 states of the country.
2. Cotton – A major agricultural and industrial crop. It is produced in 24 states of the country.
3. Palm oil
4. Rubber
5. Cassava – Grown in all states of Nigeria.
6. Cashew nuts – Produced in 28 states of the federation.
7. Sesame seeds
8. Palm kernel
9. Gum Arabic – It is produced in 14 states of Nigeria. Annual production is about 20,000 metric tonnes.
10. Sorghum



Cashew Nut



Cocoa



Gum Arabic



Palm Kernel



Rubber



Sesame Seed



Sorghum

Importance of Export Promotion

1. Foreign exchange earning
2. It advises exporters on quality standard, packaging, product design and adaptation.
3. Creation of wealth to farmers
4. Generation of employment

5. It serves as a necessary tool for trade expansion
6. Provision of raw materials for industries
7. Provision of market for industrial goods
8. Diversification of the economy
9. It attracts new investments both foreign and domestic hence it helps to create employment
10. It encourages exportation of non-oil commodities in order to diversify our revenue instead of depending on oil
11. Provision of finished products

Practice Question

1. List 5 major crops exported to other countries from Nigeria
2. How is export promotion important to a Nation

Answers

1. Cocoa
Cotton
Palm oil
Rubber
Cassava
Cashew nuts
Palm Kernel
2. Creation of Employment through the attraction of both foreign and domestic investors.
More jobs are created and the able bodied men get employed
Creation of wealth to farmers
Diversification in the economy
Provision of raw materials for industries
The country earns more money from foreign exchange

JSS3
AGRICULTURAL SCIENCE
SECOND TERM

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WEEK 2:	TOPIC: FARM RECORDS
WEEK 3:	TOPIC: BOOK KEEPING
WEEK 4 & 5	TOPIC: FARM RECORDS AND ACCOUNT
WEEK: 6 & 7:	TOPIC: AGRICULTURE IN STOCK EXCHANGE
WEEK: 8 & 9:	TOPIC: AGRICULTURE IN STOCK EXCHANGE

Week 1

Topic: Factors of Production

A. Meaning of Production

Production can be defined as the transformation of raw materials into finished goods. It is concerned with all legal activities which are directed towards the satisfaction of human wants.

Human wants are many, but they can be divided into material wants and non-material wants. The material wants are referred to as goods while the non material wants are called services.

Production involves the conversion of raw materials and semi finished goods into tangible goods that can satisfy the needs of the people. Examples of tangible goods are: yam, rice, clothes, cars, radio etc.

B. Types of Production

Types of Production are

- **Primary Production:** Primary production is concerned with the extraction of food crops from soil, crops like yam, ground nut, rubber etc all for human consumption and as raw materials for manufacturing industry. It is the extraction of mineral resources from the ground; such resources include crude oil, coal, gold etc. The primary production is carried out by Extractive Industry. An industry is a combination of all firms providing similar goods.
- **Secondary Production:** Secondary production makes use of the products from the primary production to produce finished goods. Example: The cotton extracted will be transformed into clothing during secondary production by the manufacturing industry.

Relationship between Commerce and Production

The following are the relationship that exists between commerce and relationship.

Commerce involves the process of buying, selling and distribution of goods while production involves the creating of such goods and services and making them available to satisfy human wants, therefore when goods and services are not produced there is nothing that will be transported or distributed. The products get to the final consumer through buying, selling and distribution which is commerce.

Factors of Production can be defined as the basic resources or agents used for producing goods and services. Factors of production make it possible for goods to be produced in the required quantity and quality.

The factors of production are land, labor, capital and entrepreneur.

LAND: The land is a free gift of nature; it refers to the resources provided by nature to aid the production of goods and services. Examples of land are rivers, farmlands, seas, the fishes in

them, forestry minerals such as coal, crude oil, iron etc. Others are the climatic conditions like rain, sunshine, animals etc.

Features of Land

The following points below are the features/ characteristics of land

- Land is immobile i.e the location of land cannot be changed, it is fixed.
- The value of land varies from one location to another.
- It is a free gift of nature
- The supply of land is limited
- The reward for labor is rent

LABOUR: Labour is the mental or physical efforts of man which is directed towards the production of goods and services. Examples of labor are the work of farmers, carpenters, teachers, policemen etc.

Features of Labour

- Labour is mobile i.e. can move from one location to another
- Labour controls other factors of production
- Labour has feelings
- Labour requires motivation
- Labour is not fixed
- Labour is a human factor

CAPITAL: Capital is defined as the man made assets used in production. It is the man made wealth used in the production of other goods. The reward for capital is “interest”

Features of Capital

- Capital is man made
- Capital is durable
- Capital exist in different forms
- It promotes division of labour

- Capital exist in different forms

ENTREPRENEURS: The entrepreneur is the person who combines the all other factors of production. He coordinates and directs the factors of production to produce goods and services.

Features of Entrepreneur

- The entrepreneur takes the risk in a business
- He coordinates and manages all the other factors of production
- The entrepreneur makes the decision in the organization
- Provides the capital
- The reward for an entrepreneur is “profit”

Practice Questions

1. The transformation of raw materials into finished goods is ____
 (a) commerce
 (b) production
 (c) industry
 (d) services
2. ———— is the combination of all firms providing similar goods.
 (a) industry
 (b) manufacturing
 (c) firms
 (d) production
3. Non material wants are called ____
 (a) goods
 (b) services
 (c) excess wants
 (d) perishable goods
4. The production that needs to do with the extraction of food crops from soil is ____
 (a) primary production
 (b) secondary production
 (c) tertiary production
 (d) none of the above
5. For production to fulfill its purpose, goods produced must get to the
 (a) retailers
 (b) wholesalers

- (c) consumers
 - (d) producers
6. The reward for land as a factor of production is ____
- (a) profit
 - (b) interest
 - (c) rent
 - (d) wages
7. The following are factors of production except ____
- (a) labour
 - (b) land
 - (c) industry
 - (d) capital
8. Which one of the following is a distinguishing feature of capital
- (a) it is created by man but set aside for future use
 - (b) it is fixed
 - (c) it's reward is rent
 - (d) it is a free gift of nature
9. The manager of the business is referred to as ____
- (a) labour
 - (b) adviser
 - (c) entrepreneur
 - (d) none of the above
10. Which of the following is not a good example of land_____
- (a) gold
 - (b) seas
 - (c) rivers
 - (d) bridge

Answers

- 1. B
- 2. A
- 3. B
- 4. A
- 5. C
- 6. C
- 7. C
- 8. A

9. C

10. D

Week 2

Agricultural Science JSS3 Second Term

Topic: Farm Records

Content

- **Farm Records**
- **Importance of Farm Records**

Farm Records

Farm records are written documents showing major activities going on in the farming business. This is to enable a farmer manage his farm well and also have records for future use.

Importance of Farm Accounts and Records

1. Changes in Prices of Produce – It enables the farmer to monitor changes in prices of farm produce
2. Determination of annual tax – Farm records make it possible to determine accurate tax to be paid
3. Data for planning and budgeting – Farm records help to provide data for planning
4. Management Decisions – Records help you to make the right decisions as regards the farm business
5. Detection of Fraudulent Acts – Through monitoring of farm records, the farmer is able to detect any fraudulent act.
6. For procurement of loans – Good farm records can be used by the farmer to secure loan from the bank
7. Farm Auditing – Accurate records are needed for auditing
8. Determination of Actual Worth of the Farm – Farm records help you to know the worth of your farm in monetary terms
9. Financial Position – Through farm accounts, you can know the financial position of your farm

Assessment

Mention five importance of farm accounts and records

Week 3

Agricultural Science JSS3 Second Term

Topic: Book Keeping

Meaning of Book-keeping

It can be defined as the the system of recording transaction in business on a daily basis in appropriate book, it is an integral part of account. It can also be defined as the process of recording, selecting, classifying, interpreting and communicating financial data of an organization to enable users to make decision. Accounting involve measurement and reporting of organization profit and loss.

Importance of Accounting and Book-keeping

1. The record shows income and expenditure
2. The record provides a means by which the finance of business are controlled
3. It helps to prevent fraudulent practices
4. It helps to determine the profitability of business concern
5. They are used for tax assessment
6. It provide permanent record for all transaction
7. It can be use for decision making
8. The record also shown the asset and liability of the business.

Accounting Terms

Farm Assets – A farm asset is anything of value in the possession of a farm business. In other words, assets are resources possessed by a farmer which enables him to produce. An *asset* is an economic resource. Anything tangible or intangible that can be owned or controlled to produce value and that is held to have positive economic value is considered an *asset*. An *asset* is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit. *Assets* are reported on a company's balance sheet, and they are bought or created to increase the value of a firm or benefit the firm's operations.

Two types of assets

- Fixed assets – These are assets which are not used up during production. Examples are landed property, farm buildings, motor vehicles, tools and implements, incubator and milking machines.

- **Current assets** – These are assets which are used up during the process of production e.g water, feed, drugs, chemicals, fertilizers, seeds and cash in bank.
- **Fixed Cost** – This is the component of the total cost of production which does not vary with the level of production. Examples – cost of structures (silo, barns), cost of equipment and cost of machinery.
- **Variable Cost** – This is the other component of total cost which varies directly with the level of production. examples – wages, salaries, cost of feed, cost of seeds, cost of fertilizers, cost of agro-chemicals.

Liabilities – This is the money owed to external persons or corporate bodies. e.e loans from banks. Liabilities are properties of other people which the bank owes. A liability is a company's financial debt or obligations that arise during the course of its business operations. Liabilities are settled over time through the transfer of economic benefits including money, goods or services. Amounts owed to lenders and suppliers. *Liabilities* often have the word “payable” in the account title.

- **Current or Short term Liabilities** – These are debts that must be paid back within one accounting year e.g creditor's loan and accrued expenses
- **Long term Liabilities** – These are debts which cannot be paid back within one accounting year e.g Loans from banks

Net capital, Net worth or Owner's equity – This is the total amount of money supplied by the owner of the farm business.

Assets – $\text{Liability} = \text{Owner's equity or Capital}$

Liquidity – This is the ability of the farm business to cover the liquidation of the asset

Solvency – This is the ability of the farm business to cover the liquidation of the asset

Appreciation – This refers to increase in value or worth of an asset as the asset is being used over time. Examples of assets that can appreciate are, growing young animals, cash crops and land. **Appreciation** is an increase in the value of an asset over time. The increase can occur for a number of reasons, including increased demand or weakening supply, or as a result of changes in inflation or interest rates. This is the opposite of depreciation, which is a decrease over time.

Depreciation – This refers to the loss or reduction in the value or worth of an asset as the asset is being used over time. In other words, depreciation is the loss in value of capital asset as a result of wear and tear over a period of time. Examples are farm buildings, machineries, motor vehicles, tools etc **Depreciation** is an **accounting** method of allocating the cost of a tangible asset over its useful life. It is the permanent and continuing diminution in the quality, quantity or value of an asset.

Salvage Value – This is the amount at which an asset is sold off when it is no longer economical to keep or when the cost of maintenance of the asset is too high. SV can be referred to as the amount of money received from the disposal of a fixed asset after its normal useful life. An asset can depreciate to the extent that it attracts little value. When there is no value on an asset, it is called obsolete and therefore sold off as scrap.

Useful life of an asset – This means the number of years a piece of farm equipment can effectively serve a farmer.

Calculation of Depreciation

Methods

- Straight Line Method or Fixed Installment Method
- Annual revaluation Method
- Unit of Production or Output method
- Declining balance method
- Sum of the years digit method

Formulae for calculation

- Total depreciation = Cost price of Asset – Salvage value of the Asset
- Annual Depreciation =
Cost price – Salvage Value
No of useful life

Example – Calculate the salvage value, total depreciation, annual depreciation and appreciation of an asset. A plough which was purchased in 1994 at the cost of 48,000,000 and sold off at 30,000,000 in 2009.

Solution

Cost Price = N48,000,000

Salvage Value = N30,000,000 (Price at which plough was sold after useful years)

Life span or useful life = 2009 – 1994 = 15years

Total depreciation = Cost price – Salvage Value = N48,000,000 – N30,000,000 = N18,000,000

Annual depreciation = Total depreciation = N18,000,000 = N1,200,000
Life Span 15

Appreciation – The plough suffered a loss or reduction so no appreciation.

Assessment

Briefly define the following terms;

- Farm Asset
- Depreciation
- Liabilities

Week 4 & 5

Agricultural Science JSS3 Second Term

Topic: Farm Records and Account

Content

- **Types and Uses of Farm Records**
- **Record and Its Benefits**
- **Farm Accounts**
- **Types and Importance of Farm Accounts**

Types of Farm Records

1. **Cash book receipts and payment records**
Cash book – Book of financial transactions (income and expenses)
Receipts and payments – There are two types (cheque and cash) and they are recorded in the cash book
Receipts are recorded on the left side while payments are recorded on the right side
Cash book content – Date column, source of income received or expenditure made.
2. **Annual Valuation**
Farmers keep statement of the value of stocks at the beginning and end of the year
Every valuation is based on market value or production cost
3. **Farm Diary**
Record of daily activities and events of the farm
Reference book to obtain information about the farm
It also shows movement of staff and visitors to the farm, amount of rainfall and losses to thieves.
4. **Farm Inventory**
This is the listing of all assets on the farm and their money worth or value. It is a record that gives the full list of assets and liabilities of a farm in both physical and

monetary terms. This is carried out at the close of farming season and at the beginning. The information on the inventory shows

- Quantity of item
- Date of Purchase
- Price
- Other useful information

How to take inventory

1. Identify the assets and liabilities
2. Itemize the above
3. Count each of the assets physically
4. Assign monetary value to each asset

Importance of Inventory record

- Helps in periodic checking of the movement of farm tools and equipment
- Assists in Farm evaluation, farm planning and budgeting
- Helps in assessment of net worth of farm
- Provides data for preparation of balance sheet
- Helps in identifying damaged tools

5. Farm Budget

- This is the Estimated future income and expenditure of farm operation
- Budgeting technique helps farmer to select the most profitable plan
- Helps to check profitability of any economic change in farm plan

6. Yield or Production record

- It shows the yield of crops cultivated on the farm
- It shows the produce from the livestock or poultry
- It may help in variety selection

7. Payroll or Labour Record

- Shows the amount and types of labour hired or employed to work on the farm
- Shows the rates and wages paid
- Helps in profit and loss account

8. Farm Input Utilization Record

- It shows the input acquired and utilized during the period.
 - It shows the levels of input application
 - It is used in combination with output record to determine resource productivity.
1. **Profit and Loss Account** – This type of account is prepared at the end of a business period usually a year by the farmer for the purpose of knowing whether his business is making profit or loss. Expenses are recorded on the left side (debit) while receipts or sales are recorded on the right side (credit).

Debit		Credit	
Particulars	N : K	Particulars	N : K
1. Cost of feed	1000:00	2. Sales of eggs	15000:00
3. Cost of drugs	1200:00	4. Eggs for domestic use	1500:00
5. Loss due to mortality	800:00	6. Value of stock left	8000:00
7. Farm wages	8500:00	8. Sales of spent layers	5500:00
9. Transportation	1500:00		
10. Depreciation	4500:00		
11. Electricity bill	5000:00		
Total expenditure	22500:00		
12. Net Profit	7500:00	Grand total	30,000:00
Grand total	30,000:00		

Farm Accounts

Farm Accounts are statements of money paid out or received for goods and services used in farming business. Money is received due to sales of farm produce or loans from other sources while money is paid out for purchases of farm produce or settlement of debts. At the end of a given period, the farmer should be able to know whether the business is yielding profits or losses.

Types of Farm Accounts

1. **Sales Account** – This shows the details of produce sold which also includes – type of produce, quantity sold, amount paid by customer, date sold and customer's information. Also known as sales and receipt account.
2. **Purchase Account** – This shows the details of all items purchased for use on the farm. It includes name of input, date purchased, number of input or quantity and cost of input.
3. **Farm Valuation** – Farm valuation is carried out to get the time value of the farm. It is carried out at the beginning and end of the accounting or production period. Valuation of the farm at the beginning is known as Opening Valuation while at the end of the production year is known as Closing Valuation.

Importance of Farm Valuation

- A good valuation will determine the disposable value of the farm when the need arises
- useful for tax assessment
- Used to prepare balance sheet

4. **Cash Analysis Account** – This shows the details of income and expenditure of a farm over a given period of time. Sales and receipts are entered on the left hand while purchases and receipts are entered on the right hand. Total received is recorded at the bottom of the left hand and Total paid is recorded at the bottom of the right hand.

Importance of Cash Analysis Account

- Helps in planning of farm activities
- Useful in preparing balance sheet
- Used in the preparation of profit and loss account

5. **Farm Income Statement** – It comprises all farm receipts and expenses carried out on the farm over a specific period of time. It gives an accurate profitability of the farm.

Income statement for Green Praise Farms for the Month of June, 2017

Expenses	N : K	Receipts	N : K
Feeds	2,000.00	Eggs	5,000.00
Drugs	400.00	Culled Layers	3,000.00
Water	500.00	Manure	2,500.00
Labour	1,100.00		

Fuel	1,500.00	
Net Income	5,000.00	
	10,500.00	10,500.00

6. Balance Sheet – The balance sheet shows the capital or financial position of the farm at the end of the accounting period usually a year. List of assets is on the right side while list of liability is on the left hand side.

Importance of Balance Sheet

- Balance sheet assists in future planning processes
- Assists in the assessment of management performance

Balance Sheet for Green Praise Farms as at December 31st, 2016

Liability	N	K	Assets	N	K
Loan from Agric Bank	23,000.00		Land	25,000.00	
Loan from Commercial bank	15,000.00		Implements	10,000.00	
Loan from money lenders	22,000.00		Farm building	13,000.00	
		10,000.00			8,000.00
Loan from cooperatives	70,000		Livestock	10,000.00	
Total			Feed	14,000.00	
Net capital/Net worth or owner's equity		10,000.00	Cash in bank		
		80,000.00			80,000.00

7. Profit and Loss Account – This type of account is prepared at the end of a business period usually a year by the farmer for the purpose of knowing whether his business is making profit or loss.

Expenses are recorded on the left side (debit) while receipts or sales are recorded on the right side (credit).

Importance of Profit and Loss Account

- Helps to detect if the farm is making profit or loss
- Aids future planning of the farm for better results
- Helps to determine overall performance of the farm at the end of the business year.

Assessment.

1. Mention and explain 5 types of Farm Records.
2. What is Farm Account?
3. Mention 3 importance of farm valuation.

Agricultural Science JSS 3 Second Term

Week: 6 & 7

Topic: Agriculture in Stock Exchange

What is a Stock?

A **stock** is a type of security that signifies ownership in a corporation and represents a claim on part of the corporation's assets and earnings. "A **stock** is a share in the ownership of a company. There are two main types of **stock**: common and preferred. Common **stock** usually entitles the owner to vote at shareholders' meetings and to receive dividends.

Stock Exchange

Stock exchange is a corporation or mutual organization which provides trading facilities for stock brokers and traders to trade on stock and other securities. It is a market where shares and stock and other securities are bought. The securities traded on stock include shares issued by the companies, units trust, derivatives, pooled department and bonds.

People involved in Stock Exchange

The broker – A broker acts as an agent for firms and/or individuals who want to buy or sell securities. They instruct him to buy or sell stocks and shares on their behalf. They charge commission for the services rendered. They give advice on what type of stock or shares to buy.

The jobbers – These are people who specialize in a particular type of stocks and shares. They acts as middlemen who do not buy or sell securities direct from members of the public but through brokers who act as their agent. The jobbers quote two different prices, one for buying and a higher one for selling. The difference between the jobbers buying and selling price is called the Jobber turn or his profit.

Authorized clerks – These are salaried office workers who are employed by brokers and jobbers. They are called authorized clerks because they have authority to buy and sell securities on behalf of their principals.

Investors – These are people or institute that buys stock or shares for the sake of investment.

Speculators – These are people who buy shares not because of regular income they could obtain but because of the profit they will make from fluctuation of prices. Those who buy hoping the prices would fall are called **Bulls** while those who sell shares because they expect the price to fall are called **Bears**.

Assessment

Briefly define the following terms;

- Stock
- Stock Exchange
- Broker
- Investors

Agricultural Science JSS 3 Second Term

Week: 8 & 9

Topic: Agriculture in Stock Exchange

Stock Exchange

Stock exchange is a corporation or mutual organization which provides trading facilities for stock brokers and traders to trade on stock and other securities. It is a market where shares and stock and other securities are bought. The securities traded on stock include shares issued by the companies, units trust, derivatives, pooled department and bonds. Stock exchange is an organized market where Government securities, shares, bonds and debentures of the trading units are regularly transacted. Stock exchange provides a place to the buyers and sellers of the shares and securities. Stock exchange indicates about the good or bad health of economy. If the share prices are rising it means country is running on the path of development and prosperity.

General Importance of Stock Exchange

1. Providing a quoting market prices
It makes possible the determination of supply and demand on price. The very sensitive pricing mechanism and the constant quoting of market price allows investors to always be aware of values. This enables the production of various indexes which indicate trends etc.
2. Maintenance of liquidity
The bank and insurance companies purchase large number of securities from the stock exchange. These securities are marketable and can be turned into cash at any time. Therefore banks prefer to keep securities instead of cash in their reserve . This it facilities the banking system to maintain liquidity by procuring the marketable securities.
3. Increasing Govt. Funds
The govt. can undertake projects of national importance and social value by raising funds through sale of its securities on stock exchange.
4. Providing facilities for working.
It provides opportunities to Jobbers and other members to perform their activities with all their resources in the stock exchange.
5. Operating a compensation fund
It also operate a compensation fund which is always available to investors suffering loss due the speculating dealings in the stock exchange.
6. Providing a ready market
The organization of stock exchange provides a ready market to speculators and investors in industrial enterprises. It thus, enables the public to buy and sell securities already in issue.
7. Safeguarding activities for investors
The stock exchange renders safeguarding activities for investors which enables them to

make a fair judgment of a securities. Therefore directors have to disclose all material facts to their respective shareholders. Thus innocent investors may be safeguard from the clever brokers.

8. Creating the discipline

Its members controlled under rigid set of rules designed to protect the general public and its members. Thus this tendency creates the discipline among its members in social life also.

9. Adjustment of equilibrium

The investors in the stock exchange promote the adjustment of equilibrium of demand and supply of a particular stock and thus prevent the tendency of fluctuation in the prices of shares.

10. Checking functions

New securities checked before being approved and admitted to listing. Thus stock exchange exercises rigid control over the activities of its members.

11. Promotion of the habit of saving

Stock exchange provide a place for saving to general public. Thus it creates the habit of thrift and investment among the public. This habit leads to investment of funds incorporate or government securities. The funds placed at the disposal of companies are used by them for productive purposes.

12. Refining and advancing the industry

Stock exchange advances the trade , commerce and industry in the country. it provides opportunity to capital to flow into the most productive channels. Thus the flow of capital from unproductive field to productive field helps to refine the large scale enterprises.

13. Promotion of capital formation

It plays an important part in capital formation in the country. its publicity regarding various industrial securities makes even disinterested people feel interested in investment.

Importance of Stock Exchange in Agriculture

2. It encourages investment in agriculture
3. It helps raise capital for business
4. It encourages cooperative or contract farming
5. It creates investment opportunities for small scale farmers
6. Stock exchange makes long term loans in form of debentures available to commercial farmers
7. It encourages savings as stock and shares bought can be kept and sold in the future
8. It is a means of measuring the wealth of a company
9. It helps to facilitate the growth of companies

Assessment

What are the functions of stock exchange in Agriculture

JSS3
AGRICULTURAL SCIENCE
THIRD TERM

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AGRICULTURAL SCIENCE JSS3 THIRD TERM

WEEK 1

TOPIC: AGRICULTURE IN STOCK EXCHANGE

MEANING OF STOCK EXCHANGE

Stock exchange is a corporation or mutual organization which provides trading facilities for stock brokers and traders to trade on stock and other securities. In simple terms, it is a market where shares. Stocks and other securities are bought and sold.

The securities traded on stock exchange include shares issued by the companies , units trust, derivatives, pooled investment products and bonds. To be able to trade a security on stock exchange, it has to be listed and approved by the stock exchange council which is the governing body of the stock exchange.

People Involved In Stock Exchange.

The buying and selling of securities in the stock exchange is handled by the following people.

I. The Broker: A broker acts as agent for firms and/or individuals who want to buy or sell securities. They instruct him to buy or sell stocks and shares on their behalf. They charge commission for the services rendered . They give advice on what type of stock or share to buy and sell.

1. The Jobbers: They specialize in a particular type of stock or shares. They act as middlemen who do not buy or sell shares directly from the public but through brokers. They quote two prices; one for buying and a higher price for selling. The difference between the jobbers buying or selling price is called the jobber turn or his profit.

III. Authorized clerks: These are salaried office workers who are employed by brokers and jobbers. They have the authority to buy and sell securities on behalf of their principals.

1. Investors: They are people or institutes that buy stock or shares for the sake of investments. They intend to hold the securities in order to secure a regular income from their capital.

2. Speculators: They buy shares because of the profit they will make from fluctuations in shares.

Bulls: They buy shares, hoping that the price will rise for them to sell and make profit.

Bears: They sell shares , because they expect the price to fall.

Importance of Stock Exchange In Agriculture.

1. It encourages investment.
2. It encourages cooperative or contract farming.

3. Stock exchange makes long term loans in form of debentures available to commercial farmers
4. It helps to raise capital for business.
5. It creates investment opportunities for small scale investors.
6. It helps to facilitate the growth of companies.

Assessment.

1. What is Stock Exchange?
2. Mention 5 importance of Stock Exchange in Agriculture.

Agriculture Science JSS3 Third Term

Week 2

Topic: Export Promotion In Agriculture

Meaning of Export Promotion.

This refers to the collective programmes a country has to help organizations sell their products abroad.

In Nigeria, export promotion refers to programmes and activity put in place by the public and private sector to encourage the sales of Nigeria produce on other countries.

It is a strategy for economic development for a country based on encouraging domestic producer to export their produce to other countries and earn foreign exchange which can be used to purchase other goods not available in the country.

Assessment.

1. What is the meaning of Export Promotion?

Agricultural Science JSS3 Third Term

Week 3

Topic: Examples of Nigeria's Export Produce

Introduction

Nigeria produces a wide range of agricultural products which can serve as raw material for industries in Europe, Asia and Latin America. Some of these agricultural commodities are cocoa, cotton, palm produce. Soybean, rubber, hides, cashews, skins, cassava, coffee e.t.c .

Tree crops such as cocoa, rubber and cashew are produced in the southern part of the country while cereal crops and grain legumes such as maize, sorghum ,cow-peas and groundnut are produced in the northern part of Nigeria especially in the savanna belt of Nigeria.

Some examples of Nigeria export produce, where they are produced in Nigeria and their average annual production in metric tonnes are explained below:

1. Cacao (*Theobroma cacao*): Cocoa is the second major non-oil foreign exchange earner to Nigeria, after leather, it is produced in sixteen states of the country. Annual production is about 400,000 metric tonnes and 98% of this is exported.
2. Soybeans (*Glycine Max*): This is a grain of legume produced in the middle belt of Nigeria. Benue state is the second largest producer in Nigeria. It accounts for about 48% of the total national output of about 352,000 metric tonnes per annum.
3. Cotton (*Gossypium spp*): Cotton is a major agricultural and industrial crop in Nigeria . It is produced in twenty-four (24) states of the federation. Annual production is about 250,000 metric tonnes.
4. Cowpea (*Vigna unguiculata*): This is a grain legume grown in the Northern part of Nigeria. Nigeria is the largest producer with annual production of over 2.7 million metric tonnes.
5. Cashew nut (*Anacardium occidentale*): Cashew is produced in twenty eight states of the federation and federal capital territory. Annual production is about 30,510 metric tonnes.
6. Gum Arabic (*Acacia senegal*): It is produced in fourteen states(14) of Nigeria. Annual production is about 20,000 metric tonnes.



Cashew Nut



Cocoa



Gum Arabic



Palm Kernel



Rubber



Sesame Seed



Sorghum

Assessment.

1. Mention some of the agricultural commodities produced in Nigeria.

[/membership]

Agricultural Science JSS3 Third Term

Week 4

Topic: Importance of Export Promotion

Importance of Export Promotion

The following are the importance of export promotion:

Export promotion attracts foreign currency which can be used to buy items not available in Nigeria.

1. It increases the income of farmers who produce the goods for export.
2. It advises exporters on quality standard packaging, product design and adaptation.
3. Export promotion attracts new investments both foreign and domestic, hence it helps to create employment in the country.
4. It serves as a necessary tool for trade expansion which can empower a nation to acquire economic and international reputation.
5. Foreign exchange earning
6. It advises exporters on quality standard, packaging, product design and adaptation.
7. Creation of wealth to farmers
8. Generation of employment
9. It serves as a necessary tool for trade expansion
10. Provision of raw materials for industries
11. Provision of market for industrial goods
12. Diversification of the economy
13. It attracts new investments both foreign and domestic hence it helps to create employment
14. It encourages exportation of non-oil commodities in order to diversify our revenue instead of depending on oil
15. Provision of finished products

Assessment.

1. Mention 10 importance of Export promotion.

Agricultural Science JSS3 Third Term

Week 5

Topic: Planting

Planting and cultivating crops involves a solid knowledge of local conditions and plant preferences. This topic covers the timing and specific steps to growing plants from seeds to harvest. Because urban farmers often have a very small growing area, it's critical to schedule planting and care of crops to maximize harvest throughout the year.

Some urban agriculture takes place in greenhouses or nursery containers, and there are some potential advantages, including fewer concerns about soil contamination, and the ability to control temperature and other aspects of the growing environment.

METHODS OF PLANTING IN AGRICULTURE.

1. Direct Seeding and Transplanting

The term direct seeding, also called direct sowing, is also used to refer to the planting of seeds or underground vegetative planting materials directly into the soil as in potato.

2. Transplanting

Transplanting, sometimes called replanting, is a method of planting that only requires the use of pre-grown plants, or seedlings, or vegetatively propagated clones for field planting.

Examples of Planted Crops:

Direct seeding is common in cereals such as upland rice, corn, sorghum and millets; pulses such as soybean, peanut and root vegetables such as carrot and radish, many leafy vegetables, okra .

Examples of crops that are commonly transplanted are small-seeded vegetables like t tomato, eggplant and peppers.

Examples of crops where both direct seeding and transplanting methods of planting are commonly used are lowland rice, cabbage, mustard and lettuce.

ANIMAL REARING

The rearing of animals is defined as animals raised or bred for their use or for pleasure or for profit, often for food.

Methods of Animal Breeding:

Two methods of animals breeding are: inbreeding and out breeding, based mainly on breeding work with cattle.

1. Inbreeding:

When breeding is between animals of the same breed for 4-6 generations, it is called inbreeding. Inbreeding may be explained by taking an example of cows and bulls.

2. Out breeding:

Out breeding is the breeding between the unrelated animals which may be between individuals of the same breed (but having no common ancestors) or between different breeds (cross breeding) or different species (interspecific hybridization).

(i) Out crossing:

It is the mating of animals within the same breed but having no common ancestors on either side of their pedigree up to 4-6 generations.

(ii) Cross-breeding:

In cross-breeding superior males of one breed are mated with superior females of another breed. Many new animal breeds have been developed by this strategy. It gives better breeds.

Objectives of Animal Breeding:

The main objectives of animal breeding are:

1. Improved growth rate
2. Increased production of milk, meat, egg, wool, etc.
3. Superior quality of milk, meat, eggs, wool, etc.
4. Improved resistance to various diseases
5. Increased productive life
6. Increased or, at least, acceptable reproduction rate.

Assessment.

1. Define Animal Rearing.
2. What are the methods of planting in Agriculture?
3. What are the objectives of Animal breeding?
4. What are the methods of Animal breeding?

