**AGRICULTURAL SCIENCE JSS 3**

**THIRD TERM**

## SCHEME OF WORK

WEEK TOPIC

1. Historical development of Agriculture
2. Role of Science and Technology in Agriculture
3. Role of government agencies in Agriculture
4. Career opportunities in Agriculture
   1. Revision of Jss1 and 2 scheme of work
   2. Examination

**WEEK 1**

**TOPIC: HISTORICAL DEVELOPMENT OF AGRICULTURE CONTENT:** Development of Techniques through the Ages Development of Agriculture in Nigeria

**Development of Techniques through the Ages:**

In ancient times, early humans sustenance relied on gathering wild fruits, nuts, roots, and leaves. They trapped fish and hunted wild animals for food. Their shelters comprised natural formations like caves, hollows, and trees, and their clothing primarily consisted of leaves and animal skins. Initially, they used pointed sticks and sharp stones or bones for hunting, but as their skills evolved, they invented more sophisticated tools such as arrows, slings, and eventually guns. The forested lands provided abundant resources for sustenance, eliminating the need for agricultural practices. However, as the population grew, mere food gathering proved insufficient to meet their needs.

**Development of Agriculture in Nigeria:**

Nigeria's agricultural practices have roots in the techniques of Egyptian farmers, merged with traditional farming methods from West Africa. Over the past three centuries, crops from various corners of the world have been introduced to West Africa through trade. Bananas and plantains, originating from Asia, found their way to these lands, while groundnuts and cocoa were imported from America.

**Evaluation:**

1. What methods did early humans employ for food before population growth necessitated new approaches?

2. How did cocoa and groundnuts find their way to Nigeria?

**Weekend Assignment:**

1. The early man gathered the following for food except...

(a) fruits (b) trees (c) nuts (d) leaves

2. Which of these tools did the early man use for his hunting expeditions?

(a) Harvester (b) Bomb (c) Gun (d) Sticks

3. Banana and Plantain originated from...

(a) U.S.A. (b) Ghana (c) Asia (d) India

4. Groundnut and cocoa were brought to Nigeria from... by...

(a) U.S.A.; tourists (b) U.S.A.; traders (c) Asia; tourists (d) Asia; traders

5. The idea of modern-day Agricultural practices came from...

(a) The observation of excessive animal presence (b) The germination of seeds dropped by humans (c) The proximity to rivers and streams (d) The influence of sunlight

**Theory:**

1. Enumerate the kinds of food early humans relied on for sustenance.

2. List the tools employed by early humans for hunting, their shelters, and clothing.

**Week 2**

**Roles of Science and Technology in Agriculture**

Science is the systematic pursuit of knowledge gained through observation and experimentation, organized in a coherent manner. Technology, on the other hand, is the application of specific scientific knowledge to practical tasks, enhancing efficiency and ensuring high productivity with minimal effort.

The pivotal roles of science and technology in agriculture are manifold:

a. Farm Power and Machinery: Science and technology have led to the invention of various kinds of machinery such as tractors, plows, harrows, cultivators, and harvesters. Farmers have been provided loans by both federal and state governments to purchase agricultural machinery.

b. Production of Chemicals, Fertilizers: The development and production of chemicals and organic fertilizers can be seen as a direct result of the impact of science and technology. Different types of fertilizers and liming materials have been developed.

c. Harvesting, Processing, and Packaging: Science and technology have developed machines that can harvest, process, and package various crops.

d. Agricultural Research: Scientific research into agriculture has led to the development of efficient farming systems and crops that yield well and resist some pests and diseases.

e. Transportation and Communication: Transportation, vital for agriculture's growth, has been greatly improved through science and technology. The construction of communication networks such as roads, railways, and canals helps link villages and facilitates the transportation of agricultural products to cities.

f. Pests and Disease Control: Damage caused by pests and diseases to crops and animals has been a significant problem for farmers.

g. Storage Facilities: Scientific inventions have allowed farmers to store their agricultural products for extended periods.

Factors Affecting the Introduction of Science and Technology

Several factors affect the introduction and adoption of science and technology in agriculture. They include:

1. Availability of Funds.

2. Availability of Lands.

3. Willingness of the Farmer to Adopt Science and Technology.

4. Education and Research.

5. Availability of Marketing Facilities.

**Evaluation:**

1. List 5 areas of improvement in Agriculture through Science and Technology.

2. List 3 factors affecting the introduction of science and technology.

**Weekend Assignment:**

1. Science is defined as \_\_\_\_\_\_\_\_\_\_

2. Technology is the application of \_\_\_\_\_\_\_\_\_\_

a. Science and Technology

b. Scientific Knowledge

c. Biological Knowledge

d. Important Things

3. Which of these is not a role of science and technology in agriculture?

a. Farm Power and Machinery

b. Production of Chickens

c. Transportation and Communication

d. Pests and Disease Control

4. Which of these is not a factor affecting the introduction of science and technology?

a. Availability of Funds

b. Availability of Marketing Facilities

c. Pests and Disease Control

d. Availability of Sunlight

5. The role of science and technology has been felt in \_\_\_\_\_\_\_\_\_\_

a. Atmospheric Condition

b. Transportation

c. Pressure

d. Rocks.

**Theory:**

1. Define science and technology.

2. List 5 roles of science and technology in agriculture.

WEEK 3

**Roles of Government Agencies in Agricultural Production**

The government plays a crucial role in the development of agriculture in Nigeria. Various agricultural programs have been established with the aim of enhancing crop and livestock production. These programs include:

1. Agricultural Loan Schemes: Providing funds for agricultural projects and offering soft loans to farmers.

2. River Basin Development Authority (RBDA): Providing irrigation facilities and ensuring access to potable water for rural communities.

3. Green Revolution: Initiated between 1979 and 1983 to promote large-scale farming, ensuring abundant food production for local consumption and export.

4. Operation Feed the Nation (OFN): Launched by General Olusegun Obasanjo's military regime in 1976 and 1979 to increase food production, popularize agriculture, and provide food for all Nigerians.

5. Agricultural Development Project: Aimed at boosting agricultural production through the construction of farm service centers and increasing the level of extension contact with farmers.

6. Farm Settlement Scheme: Designed to make farming attractive to youths, reduce unemployment, and teach settlers better farming systems to produce larger farm produce.

7. Directorate of Food, Road, and Rural Infrastructure (DFRRI): Established in 1986 by the federal government to provide rural infrastructure such as good roads and electricity.

8. National Agricultural Insurance Scheme: Developed to provide insurance coverage for farmers, safeguarding them against losses due to natural disasters and other unforeseen events.

9. Agro-Service Centers: Centers established to provide various services and resources to farmers, facilitating their agricultural activities.

Evaluation:

1. ADP means ----------

2. Give 2 aims of Green Revolution.

Weekend Assignment:

1. ADP means ---- a) Agricultural Development Programme b) Agricultural Development Project c) Agency Development Project.

2. Operation Feed the Nation was set up by ---- a) General Olusegun Obasanjo b) Ahmadu Bello c) President Musa Yaradua d) Alvan Ikoku.

3. The program DFRRI was set up to ------ a) provide rural infrastructure b) popularize agriculture c) produce cash crops d) provide soft loans for farmers.

Theory:

1. List 6 agricultural programs introduced by the Nigerian government.

2. List 5 roles of government agencies in agricultural production.

WEEK 4 Date……………

CAREER OPPORTUNITIES IN AGRICULTURE

Agriculture encompasses diverse fields, each vital to the industry's growth and innovation:

1. Agricultural Extension: Primarily focused on assisting small-scale farmers in rural areas, agricultural extension involves teaching modern farming methods to enhance agricultural practices, leading to improved crop yields.

2. Agricultural Engineering: This field revolves around the fabrication and repair of agricultural tools and machinery, such as plows, cultivators, and planters. Professionals in this area are known as Agricultural Engineers, specializing in optimizing farming equipment.

3. Agricultural Economics: Dealing with the business aspect of agriculture, agricultural economics guides farmers on running their farming operations as profitable businesses. It covers production, marketing, and sales of agricultural produce.

4. Animal Science: This discipline involves the scientific study of farm animals, including species like goats, turkeys, and cattle. Experts in this field, known as Animal Scientists, focus on the health and productivity of farm animals.

5. Crop Science: Crop science is the scientific study of how crops are grown, encompassing techniques to optimize crop yields, improve quality, and ensure sustainability in agricultural practices.

6. Soil Science: Soil science focuses on the study of soil, including its formation, properties, and maintenance. Soil scientists work towards understanding soil health and fertility, essential for successful agriculture.

7. Forestry: Forestry is the branch of agriculture dedicated to the study of forests and their resources. Foresters specialize in managing forests, conserving biodiversity, and ensuring sustainable use of forest resources.

8. Horticulture: Horticulture pertains to the scientific cultivation of fruits, vegetables, and ornamental plants. Horticulturists employ various techniques to enhance plant growth, improve crop quality, and develop new plant varieties.

9. Veterinary Medicine: A specialized branch of agriculture, veterinary medicine focuses on the study of diseases and pests affecting livestock. Veterinarians are experts in animal health, providing essential care to farm animals.

**Evaluation**

1. Explain the following:

a) Agricultural Extension

b) Forestry

2. Define the following terms:

a) Animal Science

b) Crop Science

c) Horticulture

**Weekend Assignment**

1. ----------- is the study of how crops are grown

a) Soil Science

b) Crop Science

c) Animal Science

2. A scientist who specializes in agricultural tools and machines is called an

a) Agricultural Repairer

b) Agricultural Engineer

c) Mechanic

3. -------- is the study of farm animals

a) Animal Scientist

b) Anemology

c) Crop Scientist

4. ---------- deals with the study of forest and its resources

a) Forester

b) Forestry

c) Forestology

Theory

1. Explain the following:

a) Agricultural Economics

b) Horticulturist

c) Forester

2. Define the following:

a) Crop Science

b) Animal Science