# A TECHNICAL REPORT ON

# STUDENT INDUSTRIAL WORK EXPERIENCE

# SCHEME (SIWES)

# FROM

# AUGUST TO NOVEMBER, 2024

AT

**WASFARM INTEGRATED**

**NO 18, ONDO STREET, EBUTTE METTA, ISLAND, LAGOS STATE.**

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## REPORT OVERVIEW

This report details the industrial training experience gained during the Student Industrial Work Experience Scheme (SIWES) conducted at **WASFARM INTEGRATED**. The report is divided into five chapters:

- Chapter One provides an introduction to SIWES, detailing its background and objectives.
- Chapter Two describes the establishment of attachment, including its location, history, objectives, and organizational structure.
- Chapter Three focuses on the student's specific involvement in various sections and units within the organization.
- Chapter Four discusses the industrial experience, highlighting key lessons learned in the Farm.
- Chapter Five presents a summary of attachment activities, problems encountered, and recommendations for improving the SIWES scheme.

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background of SIWES

The Students Industrial Work Experience Scheme (SIWES) is a significant initiative established in 1973 by the Industrial Training Fund (ITF) in Nigeria. It was designed to address the observed gap between theoretical knowledge acquired in academic institutions and the practical skills required in the workplace. SIWES is a skill acquisition program that integrates academic learning with real-world industrial experiences to prepare students for the demands of their chosen careers. Before the introduction of SIWES, graduates from Nigerian tertiary institutions, especially those in science, engineering, technology, and agriculture, faced significant challenges in meeting the technical requirements of various industries. Many lacked the hands-on skills and professional exposure needed for effective performance in the workplace. This mismatch between academic training and industry expectations prompted the ITF to create SIWES as a structured means to equip students with the necessary practical experience and enhance their employability.

SIWES is mandatory for students in accredited tertiary institutions, including universities, polytechnics, and colleges of education, enrolled in courses that require industrial exposure. The program typically lasts six months but may vary depending on the institution or discipline. Students are placed in industries, organizations, or institutions relevant to their courses, where they work under the supervision of both industry professionals and their academic supervisors.

## 1.2 Objectives of SIWES

The primary objectives of SIWES include:

1. Providing students with practical knowledge of their fields of study.
2. Exposing students to modern technologies and industry standards.
3. Enhancing students' technical and interpersonal skills.
4. Bridging the gap between theoretical knowledge and practical application.
5. Preparing students for future employment opportunities by fostering professionalism and work ethics.

# CHAPTER TWO

## DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

### 2.1 Location and Brief History of Establishment

The **WASFARM INTEGRATED** is located in **NO 18, ONDO STREET, EBUTTE METTA, ISLAND, LAGOS STATE.** The farm is easily accessible, with good road networks connecting it to nearby towns and markets, facilitating the transportation of farm produce. The climate in this region is suitable for various agricultural activities, including crop cultivation and livestock farming.

**Brief History:**

The farm was established in Year 2010 with the goal of promoting sustainable agricultural practices and contributing to food production in the region. Over the years, it has expanded its operations to include large-scale cultivation of crops such as maize, rice, sweet potatoes, bananas, and vegetables. The farm also specializes in poultry farming, providing eggs and meat for commercial distribution.

The farm operates under ***MR. HAMZAT OLANREWAJU***, and it has played a significant role in providing agricultural training and employment opportunities for students and local farmers. With a strong emphasis on modern and eco-friendly farming techniques, the farm integrates mechanized and manual farming methods to enhance productivity and efficiency.

### 2.2 Objectives of the Establishment

The **WASFARM INTEGRATED** was established with the goal of contributing to agricultural development through sustainable farming practices, food production, and employment generation. The main objectives of the farm include:

**1. Food Production and Security**

**2. Promotion of Sustainable Agriculture**

**3. Economic Growth and Employment Creation**

**4. Agricultural Research and Development**

**5. Training and Skill Development**

**6. Contribution to the Local and National Economy**

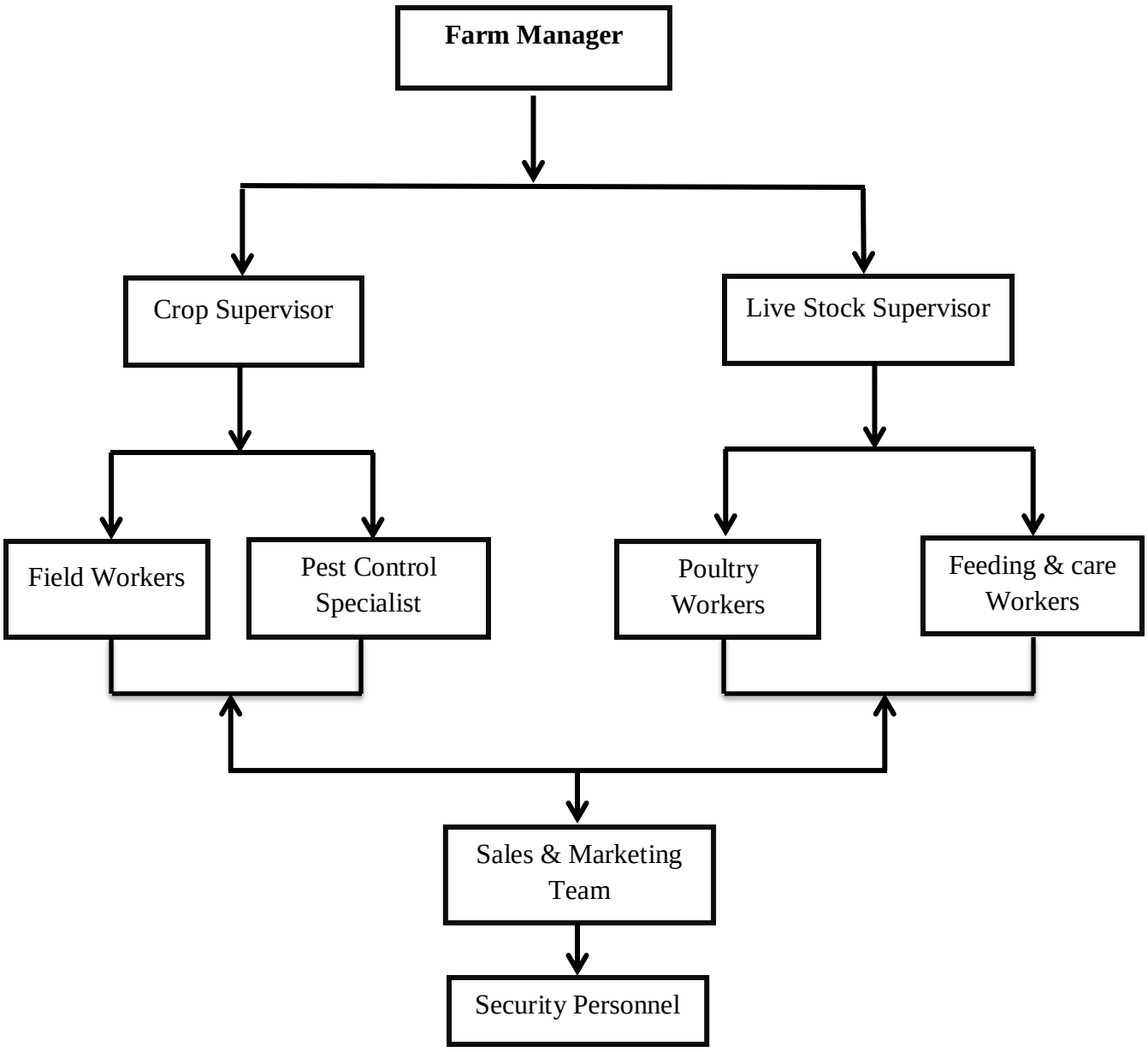
**7. Pest and Disease Management**

### 2.3 Organizational Structure

The **WASFARM INTEGRATED** operates under a structured management system that ensures efficiency in its agricultural operations. The hierarchy consists of the following key positions:

1. **Farm Manager:** The overall head of the farm, responsible for planning, budgeting, and decision-making.
2. **Crop Supervisor:** Oversees crop farming activities, including planting, transplanting, fertilization, pest control, and harvesting.
3. **Livestock Supervisor:** Manages the poultry section, ensuring proper feeding, health care, and egg/meat production.
4. **Field Workers:** Responsible for executing farm activities such as land preparation, planting, and harvesting.
5. **Pest Control Specialists:** Ensure that crops are protected from pests and diseases using organic and chemical control methods.
6. **Poultry Workers:** Handle chicken rearing, feeding, egg collection, and overall farm sanitation.
7. **Feeding & Care Workers:** Ensure proper nutrition for livestock and monitor animal health.
8. **Sales & Marketing Team:** Handles distribution, pricing, and selling of farm produce.
9. **Security Personnel:** Ensures the protection of farm equipment, crops, livestock, and workers.

**ORGANOGRAM OF THE ORGANIZATION**



**2.4 The Various Departments/Units in the Establishment and Their Functions**

**1. Crop Production Unit**

**2. Livestock and Poultry Unit**

**3. Soil Management and Fertilization Unit**

**4. Pest and Disease Control Unit**

**5. Harvesting and Post-Harvest Handling Unit**

**6. Sales and Marketing Unit**

**7. Research and Development Unit**

**8. Training and Extension Services Unit**

**9. Farm Administration and Management Unit**

**10. Security and Farm Protection Unit**

## CHAPTER THREE

## STUDENT SPECIFIC INVOLVEMENT IN VARIOUS SECTIONS/UNITS

During my SIWES program at **WASFARM INTEGRATED**, I was assigned to different units to gain hands-on experience in various aspects of farm operations. Below is a comprehensive explanation of each unit and its role in agricultural production.

### 1. Crop Production Unit

This unit is responsible for cultivating crops such as maize, rice, sweet potatoes, vegetables, and bananas. Activities include land preparation, seed selection, planting, weeding, irrigation, pest control, and harvesting. It ensures that crops grow under optimal conditions to maximize yield and quality.

### 2. Livestock and Poultry Unit

This unit focuses on rearing and managing livestock, particularly poultry. Activities include feeding, vaccination, disease control, cleaning of animal houses, and egg collection. The unit ensures proper animal nutrition, health management, and productivity to support meat and egg production.

### 3. Soil Management and Fertilization Unit

This unit is responsible for maintaining soil fertility and structure. It involves soil testing, fertilizer application (organic and inorganic), composting, crop rotation, and mulching. The goal is to enhance soil health, improve crop yields, and prevent land degradation.

### 4. Pest and Disease Control Unit

This unit focuses on protecting crops and livestock from pests and diseases. It involves pest monitoring, pesticide and herbicide application, biological control methods, and implementing disease-prevention measures. The aim is to reduce losses caused by pests and ensure a healthy farm environment.

**5. Harvesting and Post-Harvest Handling Unit**

This unit manages the proper harvesting of crops to maintain quality and reduce waste. Activities include identifying the right time for harvesting, sorting, drying, storage, and transportation. Proper post-harvest handling ensures that farm produce remains fresh and market-ready.

**6. Sales and Marketing Unit**

This unit oversees the distribution and sale of farm products. It involves pricing, packaging, market research, customer relations, and negotiating with buyers. The unit ensures that farm produce reaches the market efficiently while maximizing profit.

**7. Research and Development Unit**

This unit focuses on improving farm productivity through scientific research and experimentation. It tests new crop varieties, evaluates modern farming techniques, and introduces innovative solutions such as improved irrigation methods and climate-smart agriculture.

**8. Training and Extension Services Unit**

This unit is responsible for educating farmworkers, students, and local farmers on modern farming practices. It organizes training workshops, practical demonstrations, and knowledge-sharing programs to improve agricultural skills and productivity.

**9. Farm Administration and Management Unit**

This unit handles the general administration and financial management of the farm. It includes record-keeping, budgeting, resource allocation, procurement of farming inputs, and labor management. It ensures that the farm operates efficiently and profitably.

**10. Security and Farm Protection Unit**

This unit is responsible for safeguarding farm assets, crops, livestock, and equipment from theft and unauthorized access. Security personnel monitor farm boundaries, enforce safety regulations, and ensure a secure working environment.

# CHAPTER FOUR

## 4.0 INDUSTRIAL EXPERIENCE

### 4.1 Practical Experience Gained

Throughout my training, I was actively involved in several farm operations, including:

#### 4.1.1 Crop Cultivation:

During my SIWES program at **WASFARM INTEGRATED**, I gained hands-on experience in crop cultivation, which enhanced my understanding of modern farming techniques. I was actively involved in land preparation, which included clearing, plowing, harrowing, and ridge formation to create suitable planting conditions. I learned the importance of seed selection, planting methods, and soil testing in ensuring healthy crop growth. I also participated in irrigation management, using techniques like surface and drip irrigation to maintain soil moisture. Additionally, I applied both organic and inorganic fertilizers to improve soil fertility and observed the impact of crop rotation and mulching on soil conservation. Throughout the planting season, I engaged in weed control, pest and disease management, where I applied herbicides and organic pest control methods to protect crops from infestations. Regular monitoring of plant growth, pruning, and staking of certain crops helped optimize productivity and ensure a good yield.

Furthermore, I was actively involved in harvesting and post-harvest handling, learning different harvesting techniques based on crop maturity indicators. I gained knowledge on how to properly store and package farm produce to prevent spoilage and market losses. However, I faced challenges such as unpredictable weather conditions, pest outbreaks, high labor demand, and market price fluctuations. To address these challenges, I learned to adopt improved seed varieties, implement integrated pest management strategies, and utilize better irrigation techniques to enhance crop productivity. This experience deepened my appreciation for sustainable agricultural practices and equipped me with essential skills in farm management, problem-solving, and agribusiness, which will be valuable for my future career in agriculture.

### 4.1.2 Livestock and Poultry Management:

During my SIWES program at **WASFARM INTEGRATED**, I gained extensive knowledge and hands-on experience in livestock and poultry management, which are essential aspects of animal farming. I was actively involved in the daily care, feeding, and monitoring of livestock such as chickens, cattle, goats, and sheep. This included learning about different feeding techniques, the importance of balanced diets, and how to properly administer feed supplements to enhance animal growth and productivity. I also participated in maintaining proper housing and sanitation by cleaning animal pens, disinfecting poultry houses, and ensuring adequate ventilation to prevent disease outbreaks. Another key aspect of my training was understanding breeding techniques, artificial insemination, and natural mating processes to improve livestock reproduction. Additionally, I observed the use of vaccination and deworming programs to protect animals from diseases such as Newcastle disease in poultry and foot-and-mouth disease in cattle.

Furthermore, I learned about disease prevention and treatment, where I assisted in administering medications, isolating sick animals, and maintaining farm biosecurity measures to minimize infections. I also gained experience in record-keeping and farm management, including tracking livestock growth rates, egg production, and mortality rates. My participation in poultry farming exposed me to egg collection, incubation, and broiler production, where I learned the different stages of raising chickens for meat and egg production. Despite challenges such as disease outbreaks, high feed costs, and unfavorable weather conditions, I developed problem-solving skills by implementing proper vaccination schedules, adopting cost-effective feeding methods, and improving farm hygiene. This experience significantly enhanced my practical knowledge of livestock farming and poultry management, equipping me with essential skills for future agricultural endeavors.

### 4.1.3 Artificial Insemination:

During my SIWES program at **WASFARM INTEGRATED**, Artificial insemination (AI) in broiler production is primarily used in breeder flocks to enhance fertility and genetic improvement, as commercial broilers themselves are not bred but raised for meat. AI involves the manual

collection of semen from selected roosters, which is then introduced into the hen's reproductive tract using a pipette or syringe.

This technique is especially useful in broiler breeders, where natural mating can be inefficient due to the large body size of males, leading to reduced fertility rates and mating difficulties. AI allows for better control over breeding, ensuring that only genetically superior males contribute to the next generation, improving traits such as growth rate, feed efficiency, and disease resistance. Additionally, it prevents injuries that can occur during natural mating and enables the efficient use of semen, as a single rooster can fertilize multiple hens. In hatcheries, AI plays a crucial role by ensuring a consistent supply of fertilized eggs with high hatchability rates. These eggs are incubated under controlled conditions to produce high-quality broiler chicks for commercial farms. However, AI in poultry requires skilled labor, proper semen handling, and regular insemination (typically every 5–7 days) to maintain fertility, making it labor-intensive and costly for large-scale operations. Despite these challenges, artificial insemination remains an essential tool in modern broiler breeder management, contributing to improved productivity and genetic progress in the poultry industry.

**Harvesting and Post-Harvest Handling:**

During my SIWES program at **WASFARM INTEGRATED**, I gained extensive experience in harvesting and post-harvest handling, which are critical in maintaining the quality and market value of agricultural products. I participated in harvesting various crops, including rice, maize, sweet potatoes, vegetables, and bananas, using different techniques based on their maturity indicators. I learned that timely harvesting is crucial to prevent losses and maintain optimal crop quality. For grains such as rice and maize, I assisted in manual and mechanical harvesting, ensuring proper moisture content to avoid spoilage. In vegetable farming, I was involved in selective harvesting, where only mature produce was picked to ensure continuous production. For crops like bananas and sweet potatoes, I learned proper handling techniques to prevent bruising and post-harvest losses.

Beyond harvesting, I actively participated in post-harvest handling, which included sorting, cleaning, drying, and storage to maintain produce quality. I helped in threshing and winnowing

rice, ensuring that the grains were properly separated from the husks before storage. I also assisted in sun-drying maize to reduce moisture content, preventing mold growth and spoilage. Proper storage methods, such as the use of silos for grains and cold storage for perishable vegetables, were essential in extending shelf life. Additionally, I learned about packaging and transportation techniques, ensuring that farm produce reached the market in good condition. Through this experience, I understood the importance of post-harvest loss reduction, which directly impacts food security and profitability. This training enhanced my skills in efficient harvesting, storage management, and quality control, which are essential in modern agricultural practices.

# CHAPTER FIVE

# SUMMARY, CONCLUSION, AND RECOMMENDATIONS

## 5.1 Summary of Attachment Activities

During my SIWES program at **WASFARM INTEGRATED**, I gained hands-on experience in various aspects of agricultural practices, including crop cultivation, livestock and poultry management, pest and disease control, as well as harvesting and post-harvest handling. In the first few weeks, I was involved in land preparation, seed selection, and planting of crops such as maize, rice, sweet potatoes, bananas, and vegetables. I also participated in the transplanting of vegetables and rice seedlings to ensure proper crop growth. Additionally, I learned about the application of fertilizers, irrigation management, and weed control techniques to promote healthy plant development.

In livestock and poultry management, I was actively engaged in feeding, vaccination, deworming, and maintaining farm hygiene to prevent disease outbreaks. I also gained knowledge in breeding techniques, egg collection, and broiler production. Pest and disease control were also an essential part of my training, where I assisted in applying pesticides, biological pest control methods, and implementing farm biosecurity measures. Towards the end of the program, I was involved in harvesting rice, maize, and vegetables, as well as post-harvest handling techniques such as sorting, drying, and proper storage to maintain product quality. This training provided me with valuable practical experience, improving my knowledge of modern agricultural techniques.

## 5.2 Problems Encountered During the Program

Despite the valuable experience gained, I faced several challenges during the program. One of the major difficulties was unpredictable weather conditions, such as drought and excessive rainfall, which affected crop growth and yield. Additionally, pest infestations and disease outbreaks posed a significant threat to both crops and livestock, leading to losses. The high cost of farm inputs, including fertilizers, pesticides, and quality seeds, also made it difficult to implement best agricultural practices effectively. Another challenge was the intensive labor required for weeding, planting, and harvesting, which was physically demanding. In livestock farming, I experienced challenges in disease control and maintaining biosecurity measures, as some animals fell sick

despite preventive measures. Lastly, limited access to modern farming equipment and mechanization slowed down certain farming activities, making them more labor-intensive.

### 5.3 Suggestions for the Improvement of the Scheme

To enhance the effectiveness of the SIWES program for future participants, several improvements should be considered. First, there should be better access to modern farming equipment and mechanization, such as tractors, planters, and harvesters, to ease labor-intensive farm work. Additionally, training on advanced pest and disease control techniques should be provided to help students effectively manage farm threats. The government and private sector should also subsidize farm inputs such as fertilizers, improved seeds, and pesticides to reduce the financial burden on farms and students.

Furthermore, SIWES supervisors should conduct regular monitoring and evaluations to ensure students are actively engaged in learning and acquiring relevant skills. More emphasis should also be placed on sustainable and climate-smart agricultural practices, such as the use of organic fertilizers, crop diversification, and water conservation techniques, to improve productivity. Lastly, collaborations with research institutions and agribusiness organizations should be encouraged to expose students to modern innovations in the agricultural sector. These improvements will help make the SIWES program more impactful, ensuring students acquire practical skills that contribute to the growth of the agricultural industry.