KWARA STATE POLYTECHNIC, ILORIN

INSTITUTE OF TECHNOLOGY
AGRICULTURAL AND BIO-ENVIRONMENTAL ENGINEERING DEPARTMENT

A TECHNICAL REPORT ON
STUDENTS INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

BY

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ND/23/ABE/FT/0015

Agricultural And Bio-Environmental Engineering Technology, Institute of Technology, Kwara State Polytechnic, Ilorin

HELD AT
CYNELLY INTEGRATED COMPANY
AGRIC BUS-STOP, OJO, LAGOS STATE

BEING A REPORT SUBMITTED TO THE SIWES UNIT, INSTITUTE OF TECHNOLOGY CHAPTER, KWARA STATE POLYTECHNIC, ILORIN

IN PARTIAL FULFILLMENT FOR THE REQUIREMENT FOR THE STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

NOVEMBER, 2024

DEDICATION

This report is dedicated to God Almighty, my family, whose support was unwavering, and to the resilience within me, which has propelled me to successfully complete this Student industrial work experience through my own determination, hard work, and perseverance.

ABSTRACT

This report is based on Student Industrial Work Experience Scheme (SIWES) held at CYNELLY INTEGRATED COMPANY. Agric Bus-stop, Ojo, Loagos State it gives brief explanation about the SIWES program vis-à-vis its history, objectives and aims, while also provides a brief description, roles and functions of CYNELLY INTEGRATED COMPANY, Lagos State. It further focuses more on the technical exposure and experience gained from the engineering Department of the Company to be specific. It finally gives an account of the equipments used, types and their function respectively as well as some of the problems and challenges faced and provide recommendations that can further improve the program.

ACKNOWLEDGEMENT

I would like to thank the Almighty God, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. he has been source of my strength, commitment and patience to pass various obstacles throughout this program also, my profound gratitude goes to the Kwara State Polytechnic Management for including the Student Industrial Workshop Experience Scheme (SIWES) to the National Diploma Programme which enable me to learn and gain more experience outside the campus.

Also, I will like to say a big thank you to the management of Cynelly Integrated Company, Lagos State, for giving me the opportunity to be trained under an organization of high status.

I would not end this acknowledgment without appreciating my parents for their unwavering support, co-operation, encouragement and understanding throughout the duration of the SIWES programme.

DECLARATION

I hereby declare that, I from Agricultural and Bio-Environment Engineering Technology Department, Institute of Technology, Kwara State Polytechnic, Ilorin. underwent the four months students industrial work experience scheme (SIWES) at *CYNELLY INTEGRATED COMPANY, Agric Bus- stop, Ojo, Lagos State* from 5th August to 30th November, 2024.

I also declare that to the best of my knowledge, all sources of knowledge used have been duly acknowledged.

OWOLABI OLUWASEUN AYOMIDE
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CHAPTER ONE

1.0 INTRODUCTION TO SIWES

Students Industrial works experience scheme (SIWES) skill acquisition programme was introduced by the Federal Government of Nigeria to expose undergraduate in Engineering, Technology and Sciences of Tertiary Institutions (University, Polytechnics, Mono-technics and Colleges of Education) to industrial environment so as to acquire basic skills existing in their respective disciplines to smoothen their entry into industrial practices on completion of their studies and also reduce periods spent in training fresh graduates as new employees. It was first initiated and funded by industrial training fund (ITF) during the formative years 1973/1974.

The scheme forms part of the approved Minimum Academic Standards (MAS) in the various Degree programmes for all Nigeria universities. It is an effort to bridge the gap existing between theory and practice of engineering and technology, science, agriculture, medical, management and other professional educational programmes in the Nigeria Tertiary Institution. The programme mediate exposing students to design and construction of machines and equipment, professional work method and ways of safe-guarding the work area and workers in industries and organizations.

1.1 HISTORY OF SIWES

SIWES (Student Industrial Working Experience Scheme) was established by ITF in1973 to solve the problem of lack of adequate practical skills preparatory for employment in industries by Nigerian graduates of tertiary institutions.

The Scheme exposes students to industry based skills necessary for a smooth transition from the classroom to the world of work. It affords students of tertiary institutions the opportunity of being familiarized and exposed to the needed experience in handling machinery

and equipment which are usually not available in the educational institutions. Participation in Industrial Training is a well-known educational strategy. Classroom studies are integrated with learning through hands on work experiences in a field related to the student's academic major and career goals. It also expose the student to the practical aspect of some course being offer in the school.

Successful internships foster an experiential learning process that not only promotes career preparation but provides opportunities for learners to develop skills necessary to become leaders in their chosen professions.

One of the primary goals of the SIWES is to help students integrate leadership development into the experiential learning process. Students are expected to learn and develop basic non-profit leadership skills through a mentoring relationship with innovative non-profit leaders.

By integrating leadership development activities into the Industrial Training experience, we hope to encourage students to actively engage in non-profit management as a professional career objective. However, the effectiveness of the SIWES experience will have varying outcomes based upon the individual student, the work assignment, and the supervisor/mentor requirements.

It is vital that each internship position description includes specific written, learning objectives to ensure leadership skill development is incorporation. Participation in SIWES has become necessary pre-condition for the award of Diploma, Degree and NCE certificates in specific disciplines in most institutions of higher learning in the country, in accordance with the education policy of government.

1.2 OPERATORS OF SIWES

Operators – The ITF, the coordinating agencies (NUC, NCCE, NBTE), employers of labor and the institutions.

Funding – The Federal Government of Nigeria

Beneficiaries – Undergraduate students of the following: Agriculture, Engineering, Technology, Environmental, Science, Education, Medical Science and Pure and Applied Sciences.

Duration – Four months for Colleges of Education and Polytechnics, and Six months for the Universities.

1.3 OBJECTIVES OF SIWES

1. SIWES students will develop skills in the application of theory to practical work situations.
2. SIWES students will develop skills and techniques directly applicable to their careers.
3. SIWES will aid students in adjusting from college to full-time employment.
4. SIWES students will require good work habits.
5. SIWES will increase a student's sense of responsibility.
6. SIWES will provide students the opportunity to develop attitudes conducive to effective interpersonal relationships.
7. SIWES will reduce student dropouts.
8. SIWES student will be prepared to enter into full-time employment in their area of specialization upon graduation.
9. SIWES will provide students the opportunity to test their interest in a particular career before permanent commitments are made.
10. SIWES students will develop employment records/references that will enhance employment opportunities.
11. SIWES will provide students the opportunity to understand informal organizational interrelationships.

The four (4) months Students Industrial Work Experience Scheme (SIWES) which is a requirement for the completion of my course of study. This SIWES program was undertaken at Cynelly Integrated Company, Agric Bus Stop, Ojo, Lagos State.

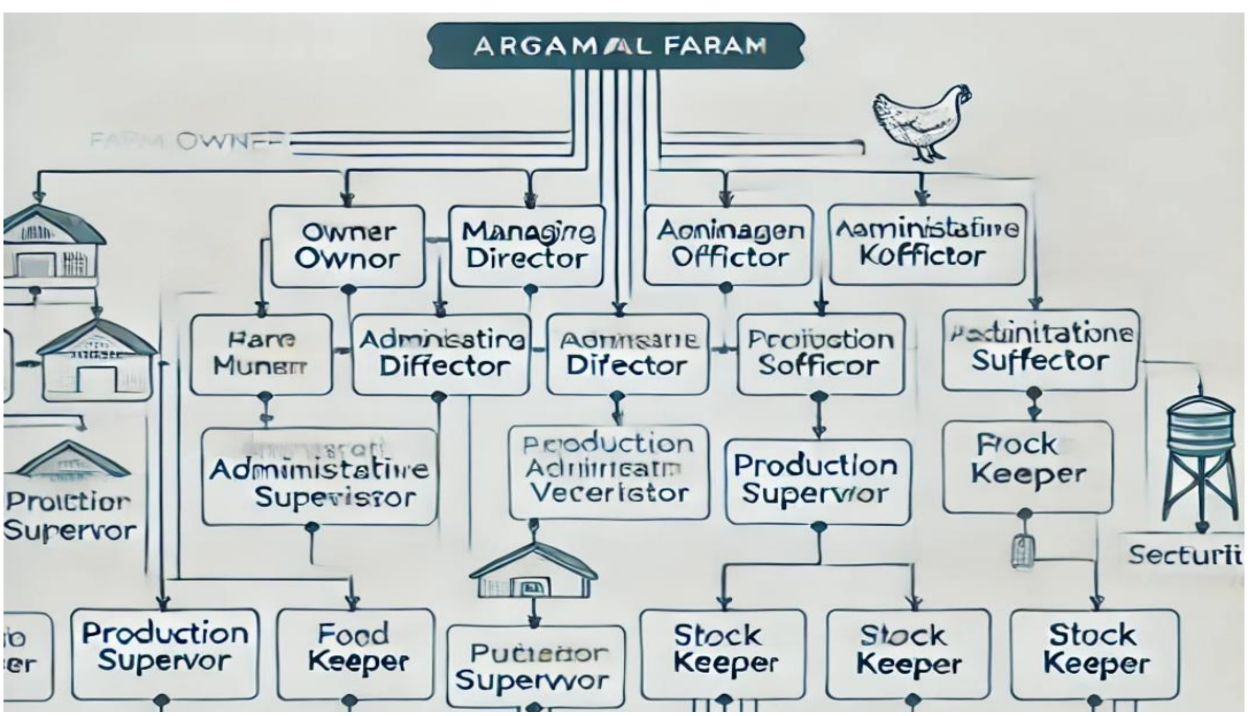
CHAPTER TWO

2.0 DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

The four months Industrial training program was carried out at Cynelly Integrated Company. The poultry farm specializes in rearing chickens, including broilers (for meat) and layers (for egg production), and operates using a combination of manual and mechanized systems. This farm consists of various facilities, including:

- **Chicken Houses:** Segregated into broiler and layer sections, equipped with perches, nest boxes, feeders, and drinkers.
- **Feed Store:** For storage of formulated poultry feeds, raw materials, and supplements.
- **Waste Management Area:** Where chicken droppings are processed into compost manure.
- **Water Supply System:** A borehole and water tanks ensuring a constant water supply.
- **Admin Office and Records Room:** For administrative activities and record-keeping.

2.1 ORGANIZATION STRUCTURES



CHAPTER THREE

REPORT ON PRACTICAL TRAINING AT A POULTRY FARM

3.1 INTRODUCTION

This report provides a detailed account of my practical training at a poultry farm. The training aimed to expose me to real-life poultry farming practices, improve my understanding of poultry management systems, and equip me with the skills required to manage poultry effectively. The poultry farm specializes in rearing chickens, including broilers (for meat) and layers (for egg production), and operates using a combination of manual and mechanized systems.

During the practical training program at the poultry farm, several machines and equipment were utilized to carry out different operations efficiently. These tools were essential in maintaining the farm's operations, ensuring the health and productivity of the chickens, and achieving overall farm management goals.

3.2 OBJECTIVES

The primary objectives of the training were to:

1. Acquire practical knowledge of poultry farming techniques.

2. Learn proper feeding, vaccination, and hygiene practices.

3. Understand waste management and its use in organic fertilizer production.

4. Gain skills in egg handling, sorting, and packaging.

CHAPTER FOUR

ACQUIRED SKILLS AND AREAS OF EXPOSURE

During my Student Industrial Work Experience Scheme (SIWES), I acquired various technical skills and was exposed to a range of practical applications. These experiences are summarized as follows:

4.1 FEEDING AND NUTRITION

During this practical season I had the opportunity to do the following:

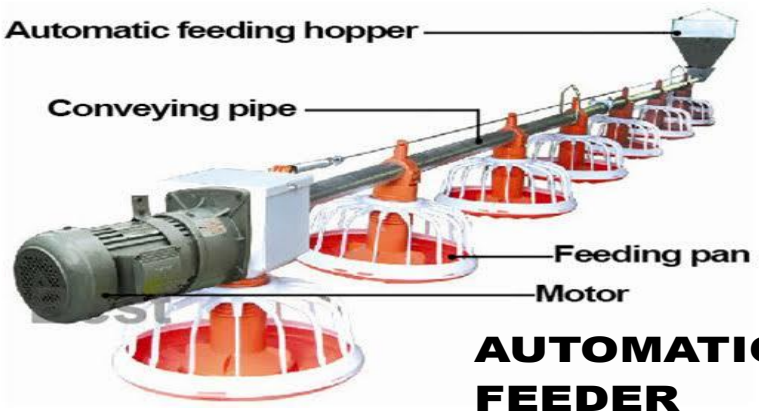
- Measured and mixed feeds to meet the nutritional needs of broilers and layers at different growth stages.
- Distributed feeds twice daily for broilers and ensured layers had constant access to feed.
- Monitored water supply, ensuring clean and adequate water was available at all times.

4.1.1 EQUIPMENT USED

- **Feed Mixers:** The feed mixer was used to combine raw materials such as maize, soybean meal, fishmeal, and additives into a balanced poultry feed. This machine ensured uniform distribution of nutrients across the feed, which contributed to the growth and health of the birds.

FEED MIXER

- **Feeders:** Automatic feeders were used to distribute feed evenly in the broiler and layer houses. These feeders reduced wastage and ensured all birds had access to feed simultaneously. Manual feeders were also used for smaller sections, particularly for chicks in the brooder.



AUTOMATIC FEEDER

- **Drinkers:** Nipple drinkers were installed in the chicken houses to provide clean and continuous water supply. Water tanks supplied clean water to the drinkers, which was essential for maintaining the birds' hydration and overall health.


NIPPLE DINKER

4.2 EGG COLLECTION, HANDLING, AND SORTING

During my SIWES I had the opportunity to have experience in egg collection, handling and sorting. I perform the following operation at my place of attachment:

- Collected eggs from nest boxes twice daily to prevent breakage or contamination.
- Sorted eggs based on size, weight, and quality (e.g., cracked vs. intact eggs).
- Packaged eggs into cartons and labeled them for sale or distribution.

4.2.1 EQUIPMENT USED DURING EGG COLLECTION AND HANDLING

- Egg Collection Belts: For layers, egg collection belts were used to transport eggs from the nest boxes to a central collection point. This system minimized egg breakage and reduced manual labor.
- Egg Candling Machines: Egg candling machines were used to inspect the internal quality of eggs. This machine helped identify eggs with cracks or undeveloped embryos, ensuring only quality eggs were packaged for sale.

EGG CANDLING MACHINE

- Egg Grading Machines: The egg grading machine sorted eggs based on weight and size into small, medium, large, and jumbo categories. This ensured proper packaging and pricing for different markets.

GRADING MACHINE

4.3 VACCINATION AND HEALTH MANAGEMENT

- I Assisted in administering vaccines, including Newcastle, Gumboro, and Marek's disease vaccines.
- Observed chickens daily for signs of illness or abnormal behavior, such as reduced feeding or feather pecking.
- Quarantined sick birds and reported them to the farm supervisor for treatment.

4.3.1 EQUIPMENT USED DURING HEALTH AND VACCINATION

- **Syringes and Vaccination Guns:** Syringes and vaccination guns were used to administer vaccines like Newcastle Disease and Marek's Disease vaccines. Birds were vaccinated at specific intervals to protect them from diseases and improve their immunity.
- **Thermometers:** Thermometers were used to monitor the temperature in the brooder and chicken houses. This ensured that the environment was within the recommended range for the birds' comfort and productivity.
- **Disinfectant Sprayers:** Disinfectant sprayers were used to sanitize the chicken houses, equipment, and workers' footwear. This helped in maintaining biosecurity and preventing disease outbreaks.

THERMOMETER

VACCINATION GUN

DISINFECTANT SPRAYERS

4.4 WASTE MANAGEMENT

- Collected and managed chicken droppings, which were composted with sawdust for organic fertilizer production.
- Removed wet litter promptly to prevent the buildup of ammonia, which could affect chicken health.

4.4.1 EQUIPMENT USED DURING WASTE MANAGEMENT

- **Wheelbarrows and Rakes:** Wheelbarrows and rakes were used to collect chicken droppings from the houses. The waste was transported to the composting area for processing into organic fertilizer.
- **Composting Bins:** Composting bins were used to decompose chicken droppings mixed with sawdust. This process converted waste into nutrient-rich organic fertilizer, which was later used on crops or sold.
- **Manure Drying Equipment:** Manure drying equipment was used to dry wet litter and droppings, reducing moisture content and making it suitable for bagging or direct use as fertilizer.

RAKE

WHEELBARROW

MANURE DRYING EQUIPMENT

4.5 CLEANING AND DISINFECTION

During my SIWES program I perform the following at my place of attachment:

- Swept and cleaned the chicken houses daily to remove droppings and waste.
- Disinfected feeders, drinkers, and equipment using recommended disinfectants to prevent disease outbreaks. Changed bedding materials, such as sawdust, weekly to maintain hygiene.

4.5.1 TOOLS USED DURING CLEANING AND DISINFECTION

- **Pressure Washers:** Pressure washers were used to clean the walls, floors, and equipment in the chicken houses. This ensured a hygienic environment and reduced the risk of disease outbreaks.
- **Cleaning Brushes and Brooms:** Cleaning brushes and brooms were used for manual cleaning of smaller areas and equipment. This was particularly useful in hard-to-reach places and for cleaning nest boxes.

CLEANING BRUSH & PRESSURE WASHERS

4.6 RECORD KEEPING

- Maintained records of feed consumption, egg production rates, mortality, and vaccination schedules.
- Assisted in calculating feed conversion ratios (FCR) to evaluate the efficiency of feed utilization.

4.6.1 TOOLS USED DURING RECORD-KEEPING AND ADMINISTRATIVE

- Digital Weighing Scales: Digital weighing scales were used to weigh feeds, eggs, and birds for record-keeping and performance evaluation.
- Computers and Software: Computers were used to maintain records of feed consumption, egg production, vaccination schedules, and mortality rates. Farm management software was also used to analyze data and generate reports.
- Record Books: Manual record books were used as a backup to document daily activities, expenses, and production figures.

4.7 OBSERVATIONS

- Environmental Control: Proper ventilation and temperature control are critical for poultry health, especially during hot weather.
- Hygiene: Regular cleaning and disinfection significantly reduced disease incidences.
- Feeding: Nutritional balance in feed was essential for achieving high growth rates in broilers and optimal egg production in layers.
- Health Management: Vaccination and early detection of diseases prevented major outbreaks.

- Productivity: Stress-free chickens, with adequate lighting and nutrition, showed higher productivity.

4.8 CHALLENGES ENCOUNTERED

- Heat Stress: During the hot season, some birds showed signs of stress, affecting their feed intake and productivity.
- Mortality Rates: A few birds died due to unforeseen diseases or injuries.
- Labor Intensive Tasks: Feeding and cleaning manually for a large flock were time-consuming and physically demanding.
- Waste Disposal: Managing large volumes of chicken droppings required consistent effort and time.

CHAPTER FIVE

SUMMARY AND CONCLUSION

5.0 SUMMARY

In summary, the student industrial work experience scheme (SIWES) has been carried out and it can be categorically said that objectives of the scheme has been achieved. It has exposed me to the four major units of a standard institutional Agricultural and Bio-environmental Engineering work experience (Farm Power and Machinery, Irrigation and Drainage, crop processing and farm storage structure).

The safety rules and regulations, operational guideline of some basic equipment in the workshop house were also exposed. In general, practical exposures to base engineering practicals have been learnt.

5.1 CONCLUSION

The Industrial Training Programme as its been designed has actually fulfilled its purpose by exposing undergraduate students of Engineering to industrial environment, use of tools, and equipments, practical knowledge and application of safety measure to life and properties.

The practical training at the poultry farm provided invaluable hands-on experience in managing poultry effectively. From feeding and vaccination to waste management and record-keeping, I gained insights into the essential practices needed to ensure optimal growth and productivity of poultry. This experience will be instrumental in future endeavors in poultry farming and agricultural engineering.