



TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK  
EXPERIENCE SCHEME (SIWES)

# *Siwes Report*

UNDERTAKEN AT  
**BIG MAMA FARM**  
**AIRPORT, LAO POWER LINE, ILORIN, KWARA STATE**

*By:*  
**BALOGUN JOSEPH TIMILEYIN**  
**ND/23/AGT/PT/0061**

SUBMITTED TO:  
DEPARTMENT OF AGRICULTURAL TECHNOLOGY, INSTITUTE OF  
APPLIED SCIENCES (IAS) KWARA STATE POLYTECHNIC, ILORIN  
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD  
OF NATIONAL DIPLOMA (ND) IN AGRICULTURAL TECHNOLOGY

AUGUST - NOVEMBER, 2024

### **CERTIFICATION**

This is to certify that this SIWES was carried out by BALOGUN, Joseph Timileyin with Matric Number: ND/23/AGT/PT/0061 in the Department of Agricultural Technology, Institute of Applied Sciences (IAS), Kwara State Polytechnic, Ilorin.

## **DEDICATION**

This SIWES is dedicated to Almighty God, the Author and Finisher of my faith.

## **ACKNOWLEDGEMENTS**

First and foremost, I appreciate Almighty God for giving me the privilege to partake in the Students Industrial Work Experience Scheme (SIWES).

I acknowledge my amiable and dynamic Mr and Mrs. Balogun for their financial, moral and spiritual caring and support during the course of my SIWES programme.

I also appreciate my Industrial based supervisor for their patient, endurance, courage and kind support during the course of my stayed in the Big Mama Farms.

I wish to also acknowledge my school based supervisor, for their support, encouragement and kind during their visitation to Big Mama Farms.

I also acknowledge the effort of my honourable HOD and other lecturers for their words of encouragement during my stay in the citadel of learning.

Finally, I appreciate my colleagues in the same industrial based training, I pray Almighty God will grant us success in all our endeavor (Amen).

## **TABLE OF CONTENTS**

TITLE PAGE	i
CERTIFICATION	ii
DEDICATION	iii
ACKNOWLEDGEMENTS	iv
TABLE OF CONTENTS	v
<b>CHAPTER ONE</b>	<b>1</b>
1.1 Introduction to SIWES	1
1.2 Background to the SIWES	1
1.3 Objectives of SIWES	2
<b>CHAPTER TWO</b>	<b>3</b>
2.0 Background Of Establishment	3
2.2 Organizational Structure	3
<b>CHAPTER THREE</b>	<b>5</b>
3.0 Nature Of Work, Activities, Skills And Experience Gained On SIWES Site	5
3.1 Brooder Department/Unit	5
3.2 Layers Department/Unit	8
3.3 Layers Occasional Management Practices	8
3.4 Types Of Record Keeping In Layers	10
3.5 Effects Of Feed On Growth And Productivity Of Farms	11
<b>CHAPTER FOUR</b>	<b>13</b>
4.0 Problems And Diseases Experienced And Opined Solutions During The SIWES Training	13
4.1 Problems Experienced And Opined Solution	13
4.1.1 Problem 1: The Management	13
4.1.2 Problem 2: Staff	13
<b>CHAPTER FIVE</b>	<b>14</b>
5.1 Recommendation	14

## **CHAPTER ONE**

### **1.1 Introduction to SIWES**

The Student Industrial Work Experience Scheme (SIWES) 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 and seeing firsthand the practical experience of some theoretical knowledge gained in the course of study.

Participation in SIWES has become a necessary pre-condition for the award of Diploma and Degree certificates in specific disciplines in most institutions of higher learning in the country, in accordance with the education policy of government.

### **1.2 Background to the SIWES**

The Student Industrial Work Experience Scheme (SIWES) is an initiative which was established in 1973 by the Industrial Training Fund (ITF) to help bridge the gap between acquired classroom education and skills necessary for work in the industry.

Before the inception of the scheme in 1973, there was glaring evidence that inadequate practical exposure of students in tertiary institutions posed serious challenges to both the quality and standard of engineering and technological education in our nation. This resulted in half-baked engineering graduates who needed to undergo a form of training (Industrial Training) to be suitable for employment in industries and firms.

In order to forestall this threat that could bring about industrial regression, the Federal Government through the Industrial Training Fund (ITF) which was established by decree 47 of 1971 introduced the Student Industrial Work Experience Scheme (SIWES) in 1973.

SIWES exposes students to machines and equipment, professional work methods and ways of safe guarding the work areas and workers in industries and other organizations. It helps the student to know the link between what is

learnt in the university and what is actually practiced on site. It further helps students to appreciate their field of study better, thereby also determining which area of specialization to go into to contribute to technological development of this nation.

The scheme involves the students, the universities and the industry (employers). It is funded by the Federal Government of Nigeria and jointly coordinated by the National Universities Commission (NUC) and the ITF.

SIWES orientation is usually done to intimate students with the rudiments of industrial training before they are being employed. At the end of the industrial training (IT), successful students whose log books were verified and approved by ITF officials are paid SIWES severance allowance.

### **1.3 Objectives of SIWES**

Provides the student with an opportunity to apply their theoretical knowledge in real work situation thereby bridging the gap between theory and Practical.

Provides an avenue for students in tertiary institutions to acquire industrial skills and experience in their course of study.

Expose students to work methods and techniques in handling equipment and machinery that may not be available in universities.

Familiarizing the student for the working conditions they are likely to meet after graduation; and

Make the transition from the university to the world of work easier and thus enhance student's contacts for later job placement.

## **CHAPTER TWO**

### **2.0 Background Of Establishment**

**BIG MAMA FARMS** is located in Airport, Lao Power Line, Ilorin, Kwara State which houses 15,000 commercial layers with 10 pens (8 deep litters and 2 battery cage pens) on a 6 acres land and has another at Akinale Village off Lagos-Abeokuta express way, Akinale, Ogun State which houses 5,000 commercial layers with 2 pens both of which are battery cage pens on a 2 acre land. However, the farm is far from been standard as it is surrounded here and there by other farms. The standard distance between two farms should be at least 10km

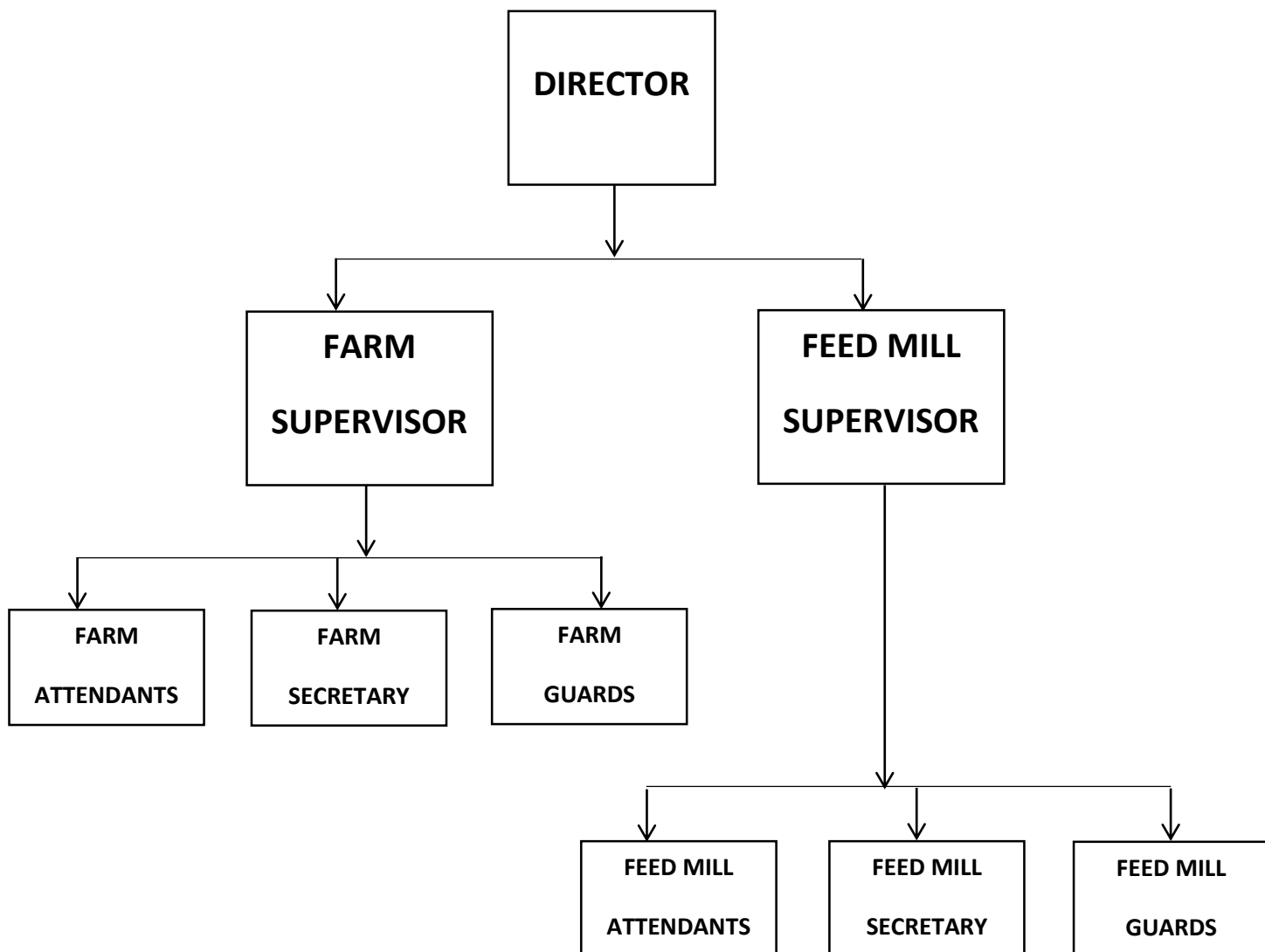
The farm started activities in late August 2011 and housed its first batch of commercial layers in September 2011. The farm started with 5000 day-old chicks and steadily increased its capacity to a present 20,000 commercial laying birds. The farm practices two types of method in rearing its birds – the battery cage and the deep litter systems of management.

**The Battery Cage:** Depending on the quality, the battery cage can accommodate between 3birds per cell for the local cages and 4birds per cell for the imported. This variation however puts the farmer on a very difficult decision making side. It is true that the locally fabricated cages would consume more space as compared to the imported one but what of the cost of purchase, that's one more thing to worry about. For the same amount of cells, the imported cages cost twice as much as the locally fabricated ones. But whichever one is used, the caged pens have greater advantages over the floor rearing pens. This would be discussed in later sections of this report.

### **2.2 Organizational Structure**

Due to the newness of the farm, it could not afford to pay too many staff and hence each department did not have a departmental head instead, it had a central head in the position of the farm manager/supervisor. All departments except the feed mill are supervised by the farm manager/supervisor who communicates directly to the director who in turn is responsible to the other partners (Board of Controllers). The director presided over the whole affairs of the farms.





## **CHAPTER THREE**

### **3.0 Nature Of Work, Activities, Skills And Experience Gained On SIWES Site**

**BIG MAMA FARMS** operation was divided into four departmental units:

- ❖ Brooder Unit
- ❖ Layers Unit
- ❖ Feed mill Unit
- ❖ Sales and Marketing

The description of the various department in which I was engaged and exposed to during my six months industrial training are highlighted below and experience gain summarized in various department.

#### **3.1 Brooder Department/Unit**

Brooding section of the farm specialized on management procedure of rearing chicks to grower. Brooder unit cater for chicks from day old to about 8weeks of age as chicks and beyond to point of lay as growers (8 – 20weeks).

This section is located at the branch farm. Big Mama Farm brooder unit started since in early November 2011 with the rearing of day-old chicks sourced from ZARTECH in the same year.

This department is one of the most sensitive units of the farm that commands a great deal of management procedures because of fragility of the birds and its vulnerability to diseases and infections.

The outline of brooder management operation exposed to in course of my training includes:

Daily observation of birds for comfort, activeness, feeding and other responses.

- ❖ Frequent supply of feeds and watering routinely.
- ❖ Removal and replacement of litters.
- ❖ Daily supply and regulation of heat.
- ❖ Sanitary procedures – cleaning, washing and disinfecting.
- ❖ Occasionally, the following management practices are essential:
- ❖ Removal of heaters

- ❖ Replacement of feeders
- ❖ Debeaking
- ❖ Deworming
- ❖ Delousing
- ❖ Medication and vaccination
- ❖ Transferring and receiving of birds.

The brooding programme and activities in BIG MAMA FARMS can be summarized below:

<b>DAY</b>	<b>DESCRIPTION</b>
1 - 2	Upon chick arrival, they are sprayed with IO (Intra-Ocular) Administration of Vitamin Supplement as anti-stress Supply of sufficient heat.
3	Administration of H120 Vaccine Administration of Vitamin Supplement as anti-stress
4	Administration of Coccidiostat Vaccine Administration of Vitamin Supplement as anti-stress
7	Administration of first LaSota Vaccine Administration of Vitamin Supplement as anti-stress
10	Administration of first Gumboro Vaccine Administration of Vitamin Supplement as anti-stress
18	Administration of second Gumboro Vaccine Administration of Vitamin Supplement as anti-stress Reduction of heat
23	Administration of second LaSota Vaccine Administration of Vitamin Supplement as anti-stress
28	Administration of third Gumboro Vaccine Administration of Vitamin Supplement as anti-stress
Week 4	Heat is completely removed
Week 5	Administration of H120 Vaccine Administration of Vitamin Supplement as anti-stress
Week 6	Administration of Fowl Pox Medication

	Administration of Vitamin Supplement as anti-stress
Week 8	Administration of LaSota Vaccine
	Administration of Vitamin Supplement as anti-stress
Week 9	Deworming
	Administration of Vitamin Supplement as anti-stress
Week 10	Debeaking
	Administration of Vitamin Supplement as anti-stress
Week 12	Administration of Egg Drop Syndrome (EDS) and Infectious Bursal (IB) Medications and Vaccines
	Administration of Vitamin Supplement as anti-stress
Week 13	Administration of Newcastle Disease Oil
Week 16	Deworming
Week 19	Administration of LaSota Vaccine

Administration of Vitamin Supplement as anti-stress

After the nineteenth week, the birds are transferred to the layers department or section.

Brooder section of the farm records much less mortality due to the proper management structure put in place and strict adherence to the management policies but the following could have caused high mortality or a combination of the following:

Poor quality chicks (the deformed, weakling and sick day-old chicks): Poor quality chicks are sorted out upon receipt of the chicks and are not counted as part of the delivery.

Inadequate feeding and watering: The feeding and watering of the chicks are programmed to ensure sustainability and continuity even in times when the management experiences difficulties.

Inadequate housing facilities: Before the arrival of the chicks, the brooding houses have been repaired and all facilities optimized and supplied in excess in advent of unforeseen circumstances.

Overcrowding and Stampeding: This is as a result of insufficient heat supply hence they tend to crowd up to increase the temperature and in doing so,

they step one on another and the chick at the bottom level suffocates to death or may not be able to sustain the weight of all other chicks on it and would die as a result of this.

However, this was combated by close observation of the attitude of the birds and heat was supplied and removed according to the reactions of the chicks to the temperature of the brooding house per time.

### **3.2 Layers Department/Unit**

The layers department is the largest unit of the farm. It consists of 14 pens housing Twenty thousand (20,000) layer stocks. The raising methods used are battery cages and deep litter system of layers management. Each compartment of the cage accommodates 4 birds. Attached to the cage “cell” is drinker and feeder, these are troughs for feed and nipple line for water.

- ❖ Layer Facilities and Operation:
- ❖ Battery cages
- ❖ Chicken coop
- ❖ Bucket, bowl, knife, and scoop
- ❖ Broom and sponges
- ❖ Wheel barrow, shovel, and rakes
- ❖ Egg tray and crates

### **3.3 Layers Occasional Management Practices**

**Vaccination:** Successful vaccination results in healthy birds thereafter improved results in terms of percentage production. For this reason, the vaccination process is a very crucial one its precept must be strictly adhered to. All steps should be aptly followed with compromise.

Materials required for the vaccination process are the vaccine, buckets, scoops, drums etc.

Vaccination should be carried out early enough in the morning at least before sunrise; all preparation should have been set. In order for the birds to earnestly drink the vaccine completely, they must be starved for at least two (2) hours. Hence the vaccination process begins this way:

Step 1: All water entries to the drinkers should be locked and birds should not be allowed access to water. This should be done at around 7pm or latest 8pm prior to the vaccination day.

Step 2: In the early hours of the morning, the normal feed ration should be serve.

Step 3: All drinkers should be washed, rinsed and suspended to free them from dirt and sometimes drugs applied prior to vaccination.

Step 4: Mixing of the vaccine

The vaccine should be mixed in a big container (black drum is best), big enough to contain the total amount of water required to sufficiently cater for the total bird population in one pen.

The quantity of water consumable per bird is dependent on its age. Based on this, the total quantity of water required for the whole flock is calculated. A bucket of known volume should be used to measure clean water from a direct water source such as borehole into the container.

For ease of knowing, the water should be mixed with milk to serve as diluent before adding the vaccine.

Once the vaccine is introduced, the solution should be mixed thoroughly but very gently. This is to avoid destroying the vaccine.

Step 5: Serving the vaccine content.

After all is done, the vaccine is distributed in a bucket to the attendants who in turn serve the birds. The process of distribution should be a very careful one as not to destroy the vaccine. At this point, the birds will rush the vaccine content because they have been starved of water hence making the vaccination programme a success.

Deworming and Delousing: The birds are dewormed in order to get rid of the worms every three months. The deworming medication commonly administered is KEPRO ORAL. It is applied in their drinking water for eradication of roundworms and other worms. The same medication for deworming is used for delousing. The medication is a hybrid that serves both purposes.

**Debeaking:** this is the act of reducing the length of the bird's beak by cutting, usually done to prevent or stop pecking and other poultry vices like pulling of feathers. Though commonly done in brooders but can be done when need arises.

**Removal of Litter and Dungs:** Since it is not only battery cage system of management that is used, the removal process should be identified differently. For the battery cages, the fowl droppings (dungs) are expected to be removed (packed or scrapped) weekly. The attendant who handles the pen is charged with the responsibility of removing the dungs.

For the deep litter, the litters are not removed unless there is a need to do so. Such need is in the advent of “wet litters”. This is done by scrapping the wet litter and replacing it with dry wood shavings and handled by the attendant in charge of the pen.

**Culling:** This is the removal of undesirable birds from the flock – those that exhibit bad trait such as pecking, runts, sick, deformed and layer exhibiting broodiness.

Mass culling is done for spent layers (i.e. out of age). This type is usually done seasonally – during festivals and on demand.

### **3.4 Types Of Record Keeping In Layers**

**Population Record:** This provides column for pen number, age and population on a daily basis.

**Mortality Record:** This provides column for pen number, mortality today, mortality yesterday and production today compared with production yesterday.

**Production at a glance:** This is a summary record of layers. It denotes pen number, production yesterday in crates, production today in crates and the name of the supervisor.

**Layers daily first hand record and reference data book:** This provides the following information; pen, 1<sup>st</sup> picking, 2<sup>nd</sup> picking, 3<sup>rd</sup> picking, 4<sup>th</sup> picking, 5<sup>th</sup> picking and the total production for the day.

**Feed Record:** This provides column for pen number and number of bags of feeds served (25kg) on a daily basis

**Comprehensive weekly report:** This denotes the date, age in week, initial population, addition mortality, mortality to date, culls, culling to date, net population, production in crates, percentage production, feed consumed, remarks and comment.

During my six months Industrial Training, my attachment to layers covered more than half of duration of my training. Here I participated in all management procedure as attendant (feeding and watering of birds, picking of eggs, cleaning of the environs of the pen, packing of litters etc.), I was also trained to supervise layer routine practices and administration of drugs and vaccine. I was finally attached to the management unit where I acted as the recorder.

### **3.5 Effects Of Feed On Growth And Productivity Of Farms**

The quality of the feed is a strong determinant of growth and egg production of poultry. The size, quality of shell, albumen and yolk of eggs are strongly dependent on feed quality and components. For example:

**Size of Eggs:** The marginal deficiency of protein in layers' diet results in the production of smaller size eggs while adequate protein and essential amino acid in feed gives larger size of eggs.

**Quality of Shell:** The shape and thickness of egg shell is a factor of limestone quantity and proportion in feed.

**Quality of Albumen:** The colour of egg' albumen depend on the riboflavin content in the diet.



**Quality of Yolk:** The proportion of yellow maize, the carotenoid pigment consumed in feed is used in yolk formation.



**Plate 1: EGG WITH POOR SHELL QUALITY**

## **CHAPTER FOUR**

### **4.0 Problems And Diseases Experienced And Opined Solutions During The SIWES Training**

There were quite a number of problems identified on the farm starting from the management to the staff and staff health, to mortality rate due to diseases outbreak, and pen orientation.

#### **4.1 Problems Experienced And Opined Solution**

##### **4.1.1 Problem 1: The Management**

The management of the farm is basically handled by the Director. He decides what price the product should be sold, to whom it should be sold, and the quantity that must be sold. Due to this, he handles the entire farm account and all its finances leaving the secretary with little and sometimes nothing to keep as record. Since no one else but him knows how much the farm is generating as well as its total expenditure, we are forced to believe funds are being misappropriated. This assumption is made manifest each time we have any project that requires finance such as purchase of feeds, payment of staff salaries, only but to name a few.

##### **Opined Solution:**

It was suggested to the Director that accurate and regular record keeping of all incomes and expenditure of whatsoever amount should be done. This way, it is possible to know where the farm is over-spending and hence cut down expenditure on such to have enough finance to embark upon equally as important projects. This suggestion was accepted only but a few days to my rounding up of the SIWES program hence not too sure of the results achieved thereafter.

##### **4.1.2 Problem 2: Staff**

There are varied problems attributed to the staff from their attitude to work to their health.

To begin with, the staff attitude to work is sometimes below expectations. This however was linked to delayed salaries, denial of benefits/entitlements and empty promises.

## **CHAPTER FIVE**

### **5.1 Recommendation**

In order to improve on the expected results of the Student Industrial Work Experience Scheme and for progress in subsequent programmes, I want to offer the following recommendation to my Student Industrial Work Experience Scheme site, School, Industrial Training Funds and the Government:

The management of BIG MAMA FARMS should try to encourage workers initiatives and contributions for this will help a long way in allowing workers put on their best to enhance the efficiency of the farm.

The management of BIG MAMA FARMS LIMITED should endeavour to see to workers welfare in terms of incentives to motivate them for best input.

If the management of BIG MAMA FARMS LIMITED can create and organise a special forum for students on attachment, this will help in discovering students potentials and to appropriately use them effectively.

The Industrial Liaison office and Students' Departmental Supervisor(s) should endeavour to regularly visit students on site to solve some relevant problems and for adequate evaluation.

The Polytechnic Departments-in-charge of student Industrial Training programme can acquaint themselves to various company and establishment of Student Industrial Work Experience Scheme. This will contribute to the success of the program as students could be offered placement from school instead of them seeking for months before finding a suitable organization.

Industrial Training Fund as a body responsible to Federal Government should create time to visit students on-site to evaluate the success of the scheme. The Federal Government should provide industries and organizations with incentives to encourage and solicit for their cooperation and contribution to the programme.