



A TECHNICAL REPORT

ON

STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

HELD AT

MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

ALONG OLD JEBBA ROAD, ILORIN, KWARA STATE, NIGERIA

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DEPARTMENT: AGRICULTURAL TECHNOLOGY

DURATION: 3 MONTHS

DEDICATION

I specially dedicate this report first and foremost to Almighty Allah who has been there for me right from the beginning to this very point. I also dedicate it to my ever supportive parent, for their relentless support and compassion towards me during the course of my SIWES training.

ACKNOWLEDGEMENTS

All praise to Almighty Allah, the creator of the universe for his mercy, favor, blessing and provisions. With great honour and gratitude, I dearly appreciate the effort of my supervisors for guiding me through during the course of this work. Your supervision and support are appreciated. My sincere appreciation also goes to my parents for their parental care and support, thank you. I also want to extend my appreciation to the effort of my colleagues and so many others I could not mention here. I really appreciate your love and care during the course of this training.

TABLE OF CONTENT

Title page

Dedication

Acknowledgement

Table of content

CHAPTER ONE

1.0 Introduction

1.1 Brief History of Students Industrial Work Experience Scheme (SIWES)

1.2 Objectives of SIWES

CHAPTER TWO

2.1 Name Of Company

2.2 Location of the company

2.3 Brief summary of the company activities

CHAPTER THREE

3.0 Poultry Section

CHAPTER FOUR

4.0 Other Techniques Learned From The Attachment

CHAPTER FIVE

5.0 Conclusion and recommendations

5.1 Conclusions

5.2 Recommendations

CHAPTER ONE

1.0 INTRODUCTION

The Industrial attachment is a 3months program officially supervised by the Industrial Training Fund (ITF) with funding provided by the Federal government. This program is organized by the Students Industrial Work Experience Scheme (SIWES) in tertiary institution.

In the course of this program, students are empowered with practical knowledge of their various discipline which helps provide an avenue of acquired work experience in their field of study.

I had the opportunity of being attached at Ministry of Agriculture and Rural Development, Ilorin (Home economics and horticulture)

1.1 Brief History of Students Industrial Work Experience Scheme (SIWES)

Students Industrial Work Experience Scheme (SIWES} was introduced by the Federal Government of Nigeria to bridge the gap between theory and practice among products of our tertiary institutions. The scheme was first initiated and funded by the Industrial Training Fund (ITF) during the formative years 1973/1974.

As a result of increasing number of students' enrolment in higher Institutions of learning, the administration of this function of funding the scheme became enormous, hence ITF withdrew from the scheme in 1978 and the scheme was taken over by the Federal Government in 1979 and handed to both the National Board for Technical Education (NBTE). By 1979, the Colleges of Education were not part of the scheme and later in 1984; the Federal Government reverted back to Industrial Training Fund which took over the Scheme officially in 1985 with funding provided by the Federal Government.

1.2 Objectives of SIWES

Some specific objectives of SIWES include to;

1. Provide placements in industries for students of higher Institutions of learning approved by relevant regulating authority (NUC, NBTE, and NCCE) to acquire work experience and skills relevant to their course of study.
2. Prepare students for real work situation they will meet after graduation
3. Expose students to work methods and techniques in the handling of equipment and machinery that may not be available in school.
4. Make transition from school to the labor market smooth and enhance students contact for later job placement.
5. Provide students with the opportunity to apply their knowledge in real life work situation thereby bridging the gap between theory and practice.
6. Strengthen employer involvement in the entire educational process and prepare students for employment in industry.
7. Promote the desired technological know-how required for the advancement of the nation.

CHAPTER TWO

2.1 NAME OF COMPANY

MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

2.2 LOCATION OF THE COMPANY

Ministry of Agriculture and Rural development headquarters is situated along Old jebba Road, Ilorin Kwara State, Nigeria

2.3 BRIEF SUMMARY OF THE COMPANY'S ACTIVITIES

Ministry of Agriculture and Rural development is an agricultural Government Organization which offers the complete value chain of poultry and catfish production, management, processing and marketing of crops. There are four(4) division and they are:

- Poultry Production
- Pest and Produce division
- Home economics division
- Horticulture division

CHAPTER THREE

3.0 POULTRY PRODUCTION

Poultry refers to the group of birds reared domestically or commercially, basically or primarily for meat and egg. Poultry birds include chickens, ducks, turkey, quails, geese and guinea fowl. The poultry birds reared on the farm are the chickens (*Gallus gallus domesticus*).

Importance of Poultry

1. They serve as source of food
2. They also serve as source of income/revenue
3. Source of employment
4. Production of manure via their droppings
5. Poultry is used for sports (cock fighting)
6. Poultry birds are as well used as sacrifices to gods

2.2 Branches of Poultry

There are three major branches of poultry found there

They include:

Egg Production poultry: This is a branch of poultry that deals with the production of eggs. The eggs produced are known as the table eggs which are being produced without mating. This is made possible by choosing a high egg laying strain.

Production of day-old chicks(Hatchery): This branch of poultry refers to the production of new chicks from the hatchable eggs. Cleanliness (hygiene) in the hatchery is very important to the continued success in the production of high quality chicks.

Therefore, the first step towards successful poultry farming is obtaining high quality day-old chicks.

Broiler production: This branch of poultry deals with the production of meat type birds. Broiler production is becoming a very important aspect of poultry production because of its short generation interval and fast growth.



Fig.1 Caging system of housing poultry

Deep litter system: This system involved the keeping of birds in pens of which the floor was made of concrete and was covered with straws, dried grasses, wood shavings or husks which absorbs the water associated with feces. The roof was made of iron sheets while the windows were covered with wire gauze for proper ventilation. Birds were provided all their needs in terms of water and feeds. Saw dust can also be used as bedding on the floor of the deep litter house but most farmers despite its cheapness and its ability to absorb the water in the feces thereby making

it dry detest the use of it since its fine nature makes it easier for birds to inhale the dust thereby leading to chest congestion, catarrh and other respiratory problems.

Advantages of deep litter system

1. There is a reduction or loss of eggs to thieves, vermin and snakes.
2. Culling of sick birds can easily be carried out.
3. It minimizes the use of land.
4. Labor can also be minimized.
5. Very large stock of flocks can be managed.
6. The rate of growth and production is also increased.
7. It requires less capital than the caging system.

Disadvantages of deep litter system

1. The cost of construction of the deep litter house may be high.
2. The cost of production is increased due to high litter requirement.
3. Birds tend to waste their feeds.
4. Vices like cannibalism. Pecking, fighting, egg eating, feather fluffing may be rampant.
5. The spread of diseases and pests is very rapid.
6. It is very difficult to cull unproductive birds since all of them lay their eggs irregularly.



Fig.2 Deep litter house

Management of Poultry

Chick management: The brooder house is ideal for chick rearing. A brooder house usually refers to some type of heated enclosure for raising baby poultry. Typically the brooder house in the Farm contained kerosene stove, a source of food and water for the chicks, and old newspapers or magazines as bedding. The essence of the newspapers or magazines was to prevent the chicks from staying in the cold bare floor and also for the absorption of the chicks' droppings. Tarpaulin was used to cover the open areas around the brooderhouse so as to control the penetration of sunlight and to provide warmth during cold weather.

Factors considered before placing an order for chicks

- i. The purpose of keeping the birds
- ii. The number of chicks needed, which as well depends on the available space.
- iii. Livability
- iv. Age at sexual maturity
- v. Egg laying ability (for layers)
- vi. Color for size of eggs

- vii. Feed consumption rate
- viii. Resistance to disease, parasite and other stress e.g. heat, cold and handling.

Before the arrival of the chicks

The preparation for brooding chicks was started two weeks before the chicks were received. This was done to avoid a last minutes rush. In Amo Siberia Farm, all the appliances were moved out and the brooder house was then thoroughly washed with recommended disinfectant solution and was afterwards allowed to dry. No remnant of the old litter was allowed to remain since it could reduce the strength of the disinfectant subsequently used for washing after the litter clearance. Two days before the arrival of the chicks, the floor was covered with old newspapers or magazines. The appliances were set up and a trial run with the brooders was made to ensure that they were properly working. The brooder's guard was installed. This kept the chicks confined within the brooder areas.

Brooding: Brooding is the care of chicks from day old to about six weeks of age. It consists primarily of the provision of heat, air, water and feed. It is the efficient combination of these factors that determines the level of physical and physiological development and the mortality of the chicks. The mortality rate during this period normally was not supposed to exceed five percent. The temperature of the hover was usually about thirty-five degree centigrade. The chicks were not allowed to stay without feed for more than thirty seconds.

Routine Practices

- a. Daily observation of birds for comfort, chick activity, color and consistency of droppings.
- b. Provision of clean water and feed daily.
- c. Washing of drinkers daily.
- d. Daily record keeping

Occasional practices

- a) Extension and removal of brooder guards
- b) Reduction and removal of litter
- c) Change of tray feeders to bigger one after one week and drinker after 4 weeks
- d) Debeaking
- e) De-worming

- f) Medication: anti-stress, antibiotics, coccidiosis etc can be given prophylactically.
- g) Vaccination at due time
- h) Culling sick, injured or dead chicks from the flock.



Fig 3 Brooder house

Management of growers

Chickens that are between 8-20 weeks of age are referred to as grower. The growers were provided with a feeder space of 7.5-10cm. This enabled the growing pullets to eat at the same time when feed was served as a result promotes uniform growth.

Routine Management practices

- (a.) Adequate feed was provided regularly
- (b.) The drinkers were washed daily and fresh clean water was as well supplied
- (c.) Records were kept daily
- (d.) Dead birds were removed and buried
- (e.) Sick and weak birds were isolated for treatment

(f.) De-beaking was done 10-12 weeks if pecking was noticed

(g) Rats and mice were controlled by blocking their tracks using rat poison and traps or by keeping cats in the farm

Management of layers

Adequate management of the layers leads to maximum egg production while diseases, parasites and mortality are reduced. Poultry vices like cannibalism, egg eating, fighting etc. can also be minimized.

The birds were fed with the layers mash after 5% egg production. Birds begin laying at the 5th month of age (20-23 weeks). The size of egg depends on the breed, size of layer, age at sexual maturity, quality and quantity of feed and adequacy of management. Feeding them with layers mash before the onset of laying was usually unnecessary and wasteful. Feeding space of 10-12.5 cm/layer was provided on long feeders. Eggs were collected at least a day on the floor to prevent breakage in the process of laying or deliberate cracking and drinking of eggs.

➤ **Daily management:** Disinfectants were put in the foot bath, birds' welfare were observed, dead birds were removed and buried, feed and fresh water were supplied, collection of eggs.

➤ **Occasional practices:** De-beaking, vaccination, de-worming, culling, monthly summarization of records of purchase of drugs, and repair of equipment or houses when necessary.

Management of broilers

Broilers were raised in cages as well as deep litter house.

Nutritional requirement of broiler varies with age, hence, two different diets were commonly given to broiler. Broiler starter was fed to the broilers for the first 4 weeks while broiler finisher was fed to them after 4 weeks until market age between 8-10 weeks. Broilers, unlike the layers were fed and watered ad-libitum. Broilers were vaccinated against prevalent diseases e.g. Newcastle and Gumboro.

CHAPTER FOUR

4.1 Common Poultry Diseases Encountered and their Management

1. Newcastle Disease: This is an acute viral disease of domestic poultry and many other bird species.

Etiology: Newcastle is caused by avian paramyxovirus-1. Infection can result by aerosols and by ingesting contaminated water or feed.

Clinical signs: Respiratory signs of gasping, coughing, sneezing, and riles. Nervous signs of tremors, paralyzed wings and legs, twisted necks, circling and complete paralysis. Respiratory signs with depression, watery greenish diarrhea, and swelling of the tissues of the head, and neck are typical of the most virulent form of the disease. Varying degrees of depression and in appetite are observed.

Lesions: Pinpoint hemorrhages may be seen on serous membranes ,hemorrhages of the periventricular mucosa and intestinal serosa, multifocal necrotic hemorrhagic areas or the mucosal surfaces at the intestine.

Diagnosis: History, clinical signs, post mortem findings and laboratory investigation

Treatment: There is no effective treatment, now ever broad spectrum antibiotics can be administered to prevent secondary bacterial infection.

Prevention and control: Vaccination at the appropriate age seems to be the most reliable prevention method, high level of farm hygiene is important.

2. Infectious Bursal Disease (Gumboro Disease): This is a highly contagious viral disease of chickens. The virus can be shed in feces of infected birds and transmitted from house to house by fomites. Infection is very difficult to eradicate from premises once there is an outbreak.

Clinical signs: Clinical signs depend on age and breed of chicken and virulenceof the virus. Infection is common among age of 3-6weeks, though severeinfections have been recorded in chicken up to18 weeks old. Outbreak may be subclinical or clinical.

Subclinical: This is associated with severe, long-lasting immune suppression. Birds do not respond well to vaccination and are predisposed to infections with other normally non-pathogenic viruses and bacteria. Common diseases are usually aggravated.

Clinical infections: Sudden onset of disease. Affected chicken exhibit severe prostration, incoordination, watery diarrhea, soiled vent picking. Mortality may be up to 60% with virulent strain.

Lesions: Cloaca bursa is swollen, edematous, yellowish, and occasionally hemorrhagic in dead birds. Congestion and hemorrhage of the pectoral, thigh and leg muscles is common. Diagnosis, Treatment, Prevention and control: same as for Newcastle disease.

3. Coccidiosis: Coccidiosis is caused by protozoa. In poultry, most species belong to the genus *Eimeria* and infect various sites in the intestine. Both droppings, which contaminate feed, dust, water, litter and soil. Pathogenicity is influenced by host genetic, nutritional factors, concurrent diseases, and species of coccidium. *Eimeria tenella* and *E. necatrix* are the most pathogenic in chickens.

Clinical findings: Signs range from decreased growth rate to high percentage of visibly sick birds, severe diarrhea and high mortality. Reduced feed and water intake, weight loss, decreased egg production. In chicken, *E. tenella* infection are found only in the caeca and can be recognized by accumulation of blood in the caeca and by bloody droppings.

Diagnosis: Coccidial infections are readily confirmed by demonstration of oocysts in feces and intestinal scrapings.

Treatment: Use of coccidiostat.

Prevention and control: Good management practice is essential, commercial vaccines consisting of low doses of live, sporulated oocysts of various coccidial species administered at low doses to day old chicks.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

The three months SIWES industrial attachment program has really exposed me to work methods and techniques in handling and management of certain animal production such as poultry production. Also, I was exposed to the procedure of booking day-old chicks at Poultry Farm . It as well has got me prepared for real life work situation after graduation in terms of being self-employed even with a small capital.

I therefore thank the SIWES coordinators and as well recommend that they should continue with their good work in creation of such an opportunity as this and urge my successors to take the program more seriously.