STUDENTS' INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

HELD AT

JOLAYEMI CHARTERED FARM

IDOFIA, ILORIN, KWARA STATE

BY

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Dedication

This seminar work is dedicated to Almighty God for its successful completion

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CHAPTER ONE

INTRODUCTION

1.1 Background to SIWES

The Student Industrial Work Experience Scheme (SIWES) was introduced to bridge the gap between theoretical knowledge acquired in classrooms and practical industrial applications. It is a program designed to expose students to real-world work environments, helping them develop essential hands-on skills in their respective fields of study. Before the introduction of SIWES, many students graduated with limited practical knowledge, making it difficult for them to transition smoothly into the workforce. Recognizing this challenge, the scheme was established to ensure that students gain industry-relevant experience before completing their academic programs.

SIWES is a compulsory training program for students in various disciplines, including engineering, sciences, agriculture, and management-related courses. The scheme was initiated by the Industrial Training Fund (ITF) in 1973 as a way to bridge the skills gap and produce graduates who are ready for employment. Over the years, it has become a critical part of the curriculum for many tertiary institutions in Nigeria, providing students with an opportunity to understand workplace ethics, industrial operations, and professional practices.

The importance of SIWES cannot be overemphasized, as it provides students with exposure to modern equipment, industrial processes, and technical know-how that cannot be fully learned within the four walls of a classroom. It allows students to work under the supervision of experienced professionals, giving them a chance to ask questions, observe industry standards, and apply their academic knowledge to solve real-life problems. This hands-on experience significantly boosts their confidence and prepares them for the competitive job market.

For students in Procurement and Supply Chain Management, SIWES serves as an avenue to understand the complexities of supply chain operations, inventory management, logistics, and industrial procurement. It provides firsthand knowledge of how raw materials are sourced, processed, and distributed to consumers. By working in a practical setting, students can see how theories like demand forecasting, supplier relationship management, and warehousing are applied in real business operations.

Additionally, SIWES fosters a strong relationship between academic institutions and industries, ensuring that students receive training that aligns with industry needs. Through this scheme, companies also get the opportunity to assess and train potential future employees. Many students who perform exceptionally well during their industrial training often secure employment opportunities with the same organizations after graduation.

In conclusion, SIWES plays a crucial role in preparing students for the workforce by bridging the gap between theory and practice. It enhances their employability by equipping them with the necessary technical skills, work ethics, and industry knowledge required to succeed in their chosen careers. The experience gained during SIWES is invaluable, shaping students into well-rounded professionals ready to contribute effectively to the economy.

1.2 Objectives of SIWES

The following are some of the objectives of SIWES program:

i. Bridge the gap between theory and practice – SIWES helps students apply classroom knowledge in real-world industrial settings.

ii. Expose students to industrial work environments – It allows students to experience real workplace operations and ethics.

iii. Enhance technical and practical skills – The scheme equips students with hands-on experience in their fields.

iv. Improve students' employability – It prepares students for future job opportunities in related industries.

v. Foster industry-institution collaboration – SIWES strengthens the relationship between educational institutions and industries.

vi. Develop problem-solving abilities – Students learn to tackle real-life industrial challenges using practical skills.

vii. Encourage professional work ethics – The scheme instills discipline, teamwork, and responsibility in students.

CHAPTER TWO

DESCRIPTION OF THE ORGANIZATION

2.1 Description

TAQWA GOLD FARM ALSAABIS is a well-established agricultural enterprise specializing in feed and fertilizer production. The company officially began its operations on 15th August 2018 with a vision to contribute significantly to the agricultural sector by producing high-quality animal feed and fertilizers. Since its inception, TAQWA GOLD FARM ALSAABIS has been committed to meeting the growing demands of farmers by providing nutritious feeds that enhance livestock and fish growth, as well as fertilizers that improve crop yield.

The company is strategically located at Egbejila, off Asa-Dam, Ilorin, Kwara State. This location provides easy access to farmers, distributors, and suppliers within and outside Ilorin. The farm operates in a well-structured environment equipped with modern machines and production facilities to ensure efficiency in feed and fertilizer manufacturing. The proximity to major agricultural markets and transportation networks makes it convenient for customers to purchase products and receive timely deliveries.

TAQWA GOLD FARM ALSAABIS is managed by Mr. Hakeem Owoeye, who is highly experienced in agricultural production and supply chain management. Under his leadership, the company has expanded its operations and improved its production processes. His expertise in procurement and supply chain has enabled the company to establish strong business relationships with farmers, distributors, and other stakeholders in the agricultural industry.

The company specializes in the production of different types of animal feeds such as poultry meal, fish meal, and livestock feed, which are carefully formulated to ensure proper nutrition for animals. The farm also produces organic and inorganic fertilizers, which play a crucial role in

enhancing soil fertility and improving agricultural productivity. The production process involves the use of advanced machinery, including mixers, grinding machines, pelletizers, conveyors, and shelving machines, ensuring high-quality products.

Aside from feed and fertilizer production, TAQWA GOLD FARM ALSAABIS operates a fish farm where African catfish are raised. This farm serves as both a production unit and a training ground for interns, allowing students and new employees to gain hands-on experience in fish farming. The farm management educates trainees on modern fish farming techniques, feeding strategies, and pond maintenance, helping to bridge the gap between theoretical knowledge and practical application.

Over the years, the company has built a strong reputation in the agricultural sector due to its high-quality products, excellent customer service, and commitment to innovation. It continues to play a crucial role in boosting agricultural productivity by supplying farmers with the necessary feeds and fertilizers to enhance livestock growth and crop yield. With a growing customer base and a focus on continuous improvement, TAQWA GOLD FARM ALSAABIS remains a key player in the agricultural sector in Kwara State and beyond.

CHAPTER THREE

WORK DONE DURING SIWES

3.1 Study of the Mode of Mixer and Its Benefits

During my SIWES training at TAQWA GOLD FARM ALSAABIS, I had the opportunity to study the mixer machine, an essential component in the production of livestock feed and fertilizers. The mixer is primarily used to blend different raw materials to ensure uniformity in feed production. It operates by rotating the ingredients at high speed, ensuring that every particle is evenly distributed to provide balanced nutrition for the animals.

The mixer plays a vital role in feed formulation as it helps to ensure that each feed batch maintains a consistent quality. This is particularly important in animal feed production, as an unbalanced mixture can lead to malnutrition or poor growth performance in livestock. The farm manager explained that the mixer's efficiency directly impacts the quality of the final product, making it a crucial part of the production process.

One of the major benefits of using a mixer is the time efficiency it offers. Instead of manually mixing ingredients, which is labor-intensive and inconsistent, the machine ensures a quicker and more precise process. This helps in mass production, allowing the farm to meet the high demand for poultry and fish feed. Additionally, the machine reduces wastage, as all materials are thoroughly mixed without residues being left behind.

Another advantage is the cost-effectiveness of using a mixer. By ensuring uniform blending, farmers get maximum value from their raw materials, minimizing unnecessary expenses. It also enhances feed digestibility, allowing animals to absorb nutrients more effectively, leading to healthier and faster-growing livestock.

Overall, studying the mixer and its benefits gave me a deeper understanding of the importance of mechanization in agricultural production. The use of mixers ensures that the feed meets the required nutritional standards, improves efficiency, and supports large-scale production, which is essential for a commercial farm like TAQWA GOLD FARM ALSAABIS.

3.2 Coupling the Roller Cell Machine (Fertilizer Machine Component)

One of the major activities I participated in during my SIWES training was the coupling of the roller cell, which is a key component of the fertilizer processing machine. This machine is used to compress and shape fertilizer into pellets, making it easier to package, transport, and apply on farmlands. The process of coupling the machine involved assembling different parts, including the rollers, drive belts, and electric motor.

Before coupling the machine, my supervisor explained the various components and their functions. The rollers are responsible for shaping the fertilizer into uniform granules, while the motor provides the necessary power to drive the machine. The alignment of these components is crucial for the machine's smooth operation. I was actively involved in fixing the bolts, aligning the belts, and ensuring proper lubrication of the moving parts.

During the coupling process, I also learned about the safety precautions required when working with heavy machinery. We had to ensure that all power sources were disconnected before starting the assembly. Additionally, wearing protective gear such as gloves and safety goggles was necessary to prevent injuries.

Once the roller cell was fully assembled, we conducted a test run to check for any mechanical faults. The supervisor closely monitored the machine's performance, ensuring that the rollers were properly aligned and that the fertilizer pellets were coming out in the desired shape and size. Adjustments were made where necessary to enhance efficiency.

This experience was highly beneficial as it improved my technical skills in machine assembly and maintenance. I learned the importance of proper machine setup in ensuring effective fertilizer production, which directly impacts agricultural productivity. Understanding how to couple the roller cell has given me a practical insight into the operations of industrial farm equipment.

3.3 Operation of the Packaging & Shelving Machine

Another important aspect of my SIWES training was learning how to operate the packaging and shelving machine. This machine is used to package poultry feed, fish feed, and fertilizer into properly sealed bags, making them ready for sale. My task involved feeding the processed products into the shelving unit, which then measured and filled each bag according to the required weight.

The shelving machine ensured that the final product was well-packaged and ready for distribution. It consists of weighing scales, sealing units, and conveyor belts, which transport the filled bags to the storage area. I learned how to adjust the weight settings to match customer specifications, ensuring accurate measurements.

An important part of this process was quality control. My supervisor emphasized the need to check for contaminants or irregularities in the packaged feed. If there was any sign of moisture or dust in the bags, the products had to be repackaged to maintain high quality.

One of the challenges I faced while working on this machine was handling machine errors, such as jams in the conveyor belt. Through supervision and guidance, I learned how to troubleshoot minor faults by adjusting the belt alignment and ensuring proper product flow.

Overall, the experience helped me understand the importance of efficient packaging and storage in supply chain management. It also reinforced my knowledge of handling automated machines in agricultural production, which is a crucial skill in modern-day farming and agribusiness.

3.4 Understanding the Mode of Fertilizer Operation

One of the key lessons during my industrial training was learning about fertilizer production and application. Fertilizers play a crucial role in agriculture by enhancing soil fertility and increasing crop yield. The industrial supervisor explained the different types of fertilizers produced at TAQWA GOLD FARM ALSAABIS, including organic and inorganic fertilizers.

I was trained on how the grinding machine processes raw materials like poultry manure, bone meal, and other organic materials into fine particles. These particles are then mixed using the mixer machine to create a well-balanced fertilizer. The final product is shaped into granules using the pelletizer machine, making it easier to apply on farms.

During my training, I also learned about the importance of fertilizer ratios in farming. Different crops require different nutrient compositions, and I was introduced to formulas like 2mm, 4mm, and 6mm ratios, which determine the concentration of nutrients in the final product.

An interesting part of my training was visiting the fish farm where African catfish were raised. The farm manager explained how fish meal fertilizer is used to boost aquatic plant growth, which benefits fish farming. This broadened my understanding of the interconnection between livestock farming and crop production.

In conclusion, studying the mode of fertilizer operation provided me with practical knowledge of the processes involved in fertilizer production. I now understand how modern agricultural businesses optimize production through mechanized equipment and proper formulation techniques, ensuring high-quality outputs for farming.

3.5 Discussion with the Industrial Supervisor on Feed Production Benefits

During my SIWES training, I had a detailed discussion with the industrial supervisor about the importance of feed production in livestock farming. The supervisor explained that the quality of feed directly impacts the growth rate, health, and productivity of poultry and fish. Proper feed formulation ensures that animals receive the necessary nutrients required for their development.

The discussion highlighted the different types of feeds produced at TAQWA GOLD FARM ALSAABIS, such as poultry meal and fish meal. The supervisor explained that poultry feed contains essential nutrients like protein, carbohydrates, vitamins, and minerals, which support rapid growth and egg production. Similarly, fish meal is rich in protein and essential amino acids that enhance the growth and survival rate of African catfish.

One of the key benefits of feed production is its cost-effectiveness for farmers. High-quality feeds reduce the risk of diseases, lower mortality rates, and improve overall livestock performance. This, in turn, increases farm profitability and sustainability. Additionally, locally produced feeds reduce reliance on imported feeds, making production more affordable.

The supervisor also emphasized the importance of proper feed processing techniques. Poorly processed feeds can contain contaminants or imbalanced nutrients, leading to health problems in livestock. The use of machines like mixers, grinders, and pelletizers helps ensure uniform nutrient distribution and feed safety.

Overall, this discussion deepened my understanding of the technical and economic aspects of feed production. I learned that quality feed is a fundamental requirement for successful livestock farming, and its production must be carefully managed to ensure efficiency and profitability.

3.6 Visit to the Fish Farm (African Catfish Rearing)

As part of my training, I had the opportunity to visit the fish farm at TAQWA GOLD FARM to observe the African catfish rearing process. This visit was particularly insightful, as I gained practical knowledge about fish farming techniques and the role of specialized feeds in fish growth.

The industrial supervisor introduced me to the different stages of catfish farming, from hatching to fingerling production and grow-out stages. I observed how the fish were kept in well-maintained ponds with controlled water quality to ensure a healthy growing environment. The farm manager explained that poor water conditions can lead to diseases and slow fish growth.

One of the most interesting aspects of the visit was learning about the feeding process. The fish are fed at specific times of the day using well-balanced feeds produced at the farm. The feed sizes vary depending on the growth stage of the fish, with smaller catfish requiring 2mm feed, while larger ones are given 4mm or 6mm feed for faster growth.

I also learned about the harvesting process, where mature fish are carefully collected for sale. The farm follows a structured approach to ensure that the fish reach their market size before being distributed to customers. The record-keeping system used by the farm ensures proper tracking of fish stock and production efficiency.

This visit helped me understand the close relationship between feed production and fish farming. Properly formulated feed ensures faster fish growth, reducing the time needed for rearing and increasing overall profitability. The practical experience I gained will be valuable in future agricultural and supply chain management roles.

3.7 Shelling and Separating Feeds from Dust and Dirt

One of my tasks during the training was shelling and separating feed pellets from dust and dirt. This process ensures that only clean and high-quality feed is packaged for sale while removing any unwanted particles that may contaminate the final product.

I was assigned to the shelving machine, which helps separate fine dust particles from the feed pellets. The machine has a vibrating mechanism that shakes the pellets, allowing lighter particles to fall through while keeping the solid feed intact. This process is important because dusty feeds can cause respiratory issues in poultry and fish, affecting their health and productivity.

Apart from using the machine, I also learned about the importance of manual inspection. Sometimes, small stones or foreign objects mix with the feed ingredients during processing. Before final packaging, the workers inspect the feed manually to remove such contaminants, ensuring feed safety and quality assurance.

The industrial supervisor explained that dust separation is also crucial for storage purposes. Feed that contains too much dust tends to spoil faster and can attract pests. By removing excess dust, the farm ensures that the packaged feed maintains its nutritional value and remains fresh for a longer period.

This experience taught me the importance of maintaining high feed quality standards. Proper cleaning and separation techniques ensure that the final product meets market requirements, benefiting both farmers and livestock.

3.8 Operation of Machines Used in Feed Production

During my SIWES program, I learned how to operate different machines used in feed production, including the grinding machine, pelletizer machine, mixer, and conveyor belt. Each

of these machines plays a critical role in the production process, ensuring that the feed is properly processed before packaging.

The grinding machine is the first machine used in the production process. It grinds raw materials such as corn, soybeans, and bone meal into fine powder, making them easier to mix. I was responsible for loading the raw materials into the machine and adjusting the grinding speed based on the type of feed being processed.

After grinding, the fine particles are sent to the mixer, where they are blended with other essential ingredients. This ensures that the feed contains all the necessary nutrients in the right proportions. The mixed feed is then transferred to the pelletizer machine, which compresses the mixture into solid pellets that are easier for livestock to consume.

The conveyor belt system is used to transport the finished pellets to the packaging section. I learned how to adjust the speed of the conveyor belt to ensure a smooth flow of products while preventing spillage. The supervisor also taught me how to maintain and troubleshoot minor faults in these machines, including cleaning and checking for blockages.

Learning to operate these machines gave me hands-on experience with automated feed production systems. I understood how different machines work together to improve efficiency and reduce production costs while maintaining high feed quality.

3.9 Measurement of Different Feed Sizes in Production

One of the most important tasks in feed production is measuring different feed sizes according to the growth stage of the animals. During my SIWES, I learned about the importance of precise measurements in ensuring optimal animal growth and health.

At TAQWA GOLD FARM ALSAABIS, the feed sizes are categorized into 2mm, 4mm, and 6mm pellets, each designed for different livestock growth stages. Smaller feed sizes (such as

2mm) are typically fed to young fish and poultry chicks, while larger pellets (4mm or 6mm) are given to more mature animals to match their increasing dietary needs.

I was taught how to use weighing scales to ensure that each feed batch met the required weight specifications. This process is important because incorrect measurements can lead to either overfeeding or underfeeding, which affects the health and growth rate of the animals.

One of the key aspects of measuring feed is balancing the nutrients. The feed formula must contain the correct proportion of protein, fats, vitamins, and minerals. The industrial supervisor explained that slight errors in measurement can lead to poor-quality feed, which may affect livestock growth and productivity.

This training emphasized the significance of accuracy and consistency in feed production. By mastering the measurement process, I learned how proper feed sizing plays a crucial role in effective livestock management, helping farmers achieve optimal production and profits.

FIG 1: Feed Pellet Stock

CHAPTER FOUR

SKILLS ACQUIRED AND CHALLENGES FACED

4.1 SKILLS ACQUIRED

During my SIWES training at TAQWA GOLD FARM ALSAABIS, I acquired several essential skills that enhanced my knowledge and practical experience in feed production and livestock management. One of the key skills I developed was the ability to operate various machines used in feed processing, including the grinding machine, mixer, pelletizer, and shelving machine. I learned how each machine functions in converting raw materials into high-quality animal feed, as well as basic troubleshooting techniques to ensure the machines operated efficiently. This hands-on experience gave me confidence in handling production equipment and understanding their roles in agricultural processing.

Another valuable skill I gained was in feed formulation and measurement techniques. I learned how to measure and mix different feed ingredients in precise proportions to create balanced feed suitable for poultry and fish at different growth stages. The training emphasized the importance of proper feed sizing, where I was taught how to differentiate between 2mm, 4mm, and 6mm feed sizes. This skill is crucial in ensuring livestock receive the appropriate nutrients for healthy growth and development. Understanding feed formulation has broadened my knowledge of how the right nutritional balance contributes to improved farm productivity.

Quality control and feed packaging were also important aspects of my training. I was responsible for ensuring that feeds were properly cleaned, free from dust and contaminants, and suitable for livestock consumption. I learned how to use the shelving machine to separate unwanted particles and maintain the high quality of the final product. Additionally, I acquired skills in packaging techniques, ensuring that feed was stored in the right conditions to maintain its freshness and

prevent spoilage. This experience helped me understand the significance of maintaining industry standards in feed production.

Beyond feed production, I had the opportunity to gain basic livestock management skills, particularly in fish farming. During a visit to the fish farm, I observed how African catfish were raised, monitored, and fed at different growth stages. The training also exposed me to water quality management, feeding schedules, and fish harvesting techniques. Understanding how well-balanced feeds contribute to the fast growth and overall health of fish gave me a new perspective on how feed production directly impacts livestock farming success.

Apart from technical skills, my SIWES experience helped me improve my teamwork, workplace ethics, and communication skills. Working alongside supervisors and colleagues, I learned the importance of collaborating effectively, following instructions, and maintaining professionalism in a work environment. I also understood the need for discipline, punctuality, and efficiency in handling assigned tasks. This practical training provided a solid foundation for my future career in procurement and supply chain management, equipping me with both technical expertise and workplace soft skills that are essential in any professional setting.

4.2 Challenges Faced

During my SIWES training at TAQWA GOLD FARM ALSAABIS, I encountered several challenges that tested my adaptability and problem-solving skills. One of the major difficulties was understanding the technical operations of the machines used in feed production. Machines like the grinding machine, pelletizer, and mixer required careful handling and precise operation, and at the initial stage, I struggled with operating them efficiently. However, with continuous supervision and practice, I gradually became familiar with their functionalities and gained confidence in using them.

Another significant challenge was the physically demanding nature of the work. The process of mixing, packaging, and transporting feed required a lot of energy and endurance. Standing for long hours while operating machines, lifting heavy bags of processed feed, and ensuring proper quality control were physically exhausting tasks. Despite this, I adapted over time by improving my stamina and time management skills, making it easier to handle my daily responsibilities effectively.

Additionally, there were communication barriers and limited access to detailed explanations on some processes. Some technical terms used by the experienced workers and supervisors were new to me, making it difficult to understand certain instructions at first. This sometimes led to errors in measurements and machine operations. To overcome this, I made extra efforts to ask questions, observe closely, and take notes for reference. As time passed, my ability to grasp the processes improved significantly.

One of the challenges I faced was adjusting to the fast-paced nature of the work environment. The production process required speed and accuracy, especially when measuring feed ingredients or packaging finished products. Any delay in one stage of production could slow down the entire process. I had to learn how to work more efficiently and accurately under pressure while maintaining the required standards of production. This experience taught me the importance of working swiftly without compromising quality.

Lastly, exposure to dust and feed particles during grinding and mixing was a challenge. The work environment was sometimes uncomfortable due to the airborne particles that could cause irritation, especially when working near the grinding machine and shelving unit. Although safety measures were in place, such as wearing face masks and gloves, adjusting to the dusty environment was difficult at first.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

In conclusion, my SIWES training at TAQWA GOLD FARM ALSAABIS provided me with invaluable hands-on experience in feed production, machine operations, and livestock management. Despite the initial challenges, such as understanding technical operations, physical demands, and communication barriers, I gradually adapted and developed essential skills that will be beneficial in my future career. The experience enhanced my knowledge of feed formulation, quality control, packaging, and fish farming techniques, as well as improved my teamwork, problem-solving, and time management skills. Overall, the training was a rewarding and insightful opportunity that bridged the gap between theoretical learning and practical application, preparing me for real-world challenges in procurement and supply chain management.

5.2 Recommendations

At the end of the program, the below recommendations are made:

i. Organizations should provide more detailed training on machine operations for industrial trainees.

ii. Safety equipment such as masks and gloves should be mandatory for workers.

iii. Trainees should receive proper guidance to minimize errors in feed formulation and measurements.

iv. More practical demonstrations should be given to improve understanding of technical processes.

v. Companies should introduce rotational training to expose trainees to all aspects of production.

vi. Regular maintenance should be conducted on machines to prevent breakdowns during production.

vii. Organizations should encourage teamwork to enhance productivity and efficiency in the workplace.