



# **KWARA STATE POLYTECHNIC, ILORIN**

**INSTITUTE OF TECHNOLOGY  
AGRICULTURAL AND BIO-ENVIRONMENTAL ENGINEERING  
DEPARTMENT**

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

**BY**

**ISHAQ ALI ADEMOLA**

**ND/23/ABE/FT/0031**

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

**HELD AT  
OUTSPAN NIGERIA LIMITED  
KM3 AFON ROAD, OGBONDOROKO, ILORIN, KWARA 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 OUTSPAN NIGERIA LIMITED. Km3 Afon Road, Ogbondoroko, Ilorin, Kwara 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 OUTSPAN NIGERIA LIMITED. It further focuses more on the technical exposure and experience gained from OUTSPAN NIGERIA LIMITED. 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 express my gratitude to the organization, SIWES coordinators, and my institution for the opportunity.

## **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 OUTSPAN NIGERIA LIMITED. Km3 Afon Road, Ogbondoroko, Ilorin, Kwara State, from 5th August to 30<sup>th</sup> November, 2024.

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

---

**ISHAQ ALI ADEMOLA**  
*ND/23/ABE/FT/0031*

## **TABLE OF CONTENT**

### **CHAPTER ONE**

1.0	Introduction to SIWES	1
1.1	History of SIWES	1
1.2	Operators of SIWES	2
1.3	Objectives of SIWES	3

### **CHAPTER TWO**

2.1	Company Background	4
2.2	Company Organogram	5

### **CHAPTER THREE**

3.1	Responsibility and Involvement	6
3.2	Harvesting	6
3.3	Drying Process	6
3.4	Shelling	6
3.5	Peeling and Grading	7
3.6	Packaging	7

### **CHAPTER FOUR**

4.1	Harvesting Operation	8
4.2	Drying Operation	8
4.3	Shelling Operation	9
4.4	Peeling and Grading Operation	9
4.5	Packaging Operation	10
4.6	Challenges and Solutions	10

### **CHAPTER FIVE**

5.0	Conclusion	12
5.1	Acknowledgments	12

## **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 in 1973 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.

## CHAPTER TWO

### 2.1 COMPANY BACKGROUND

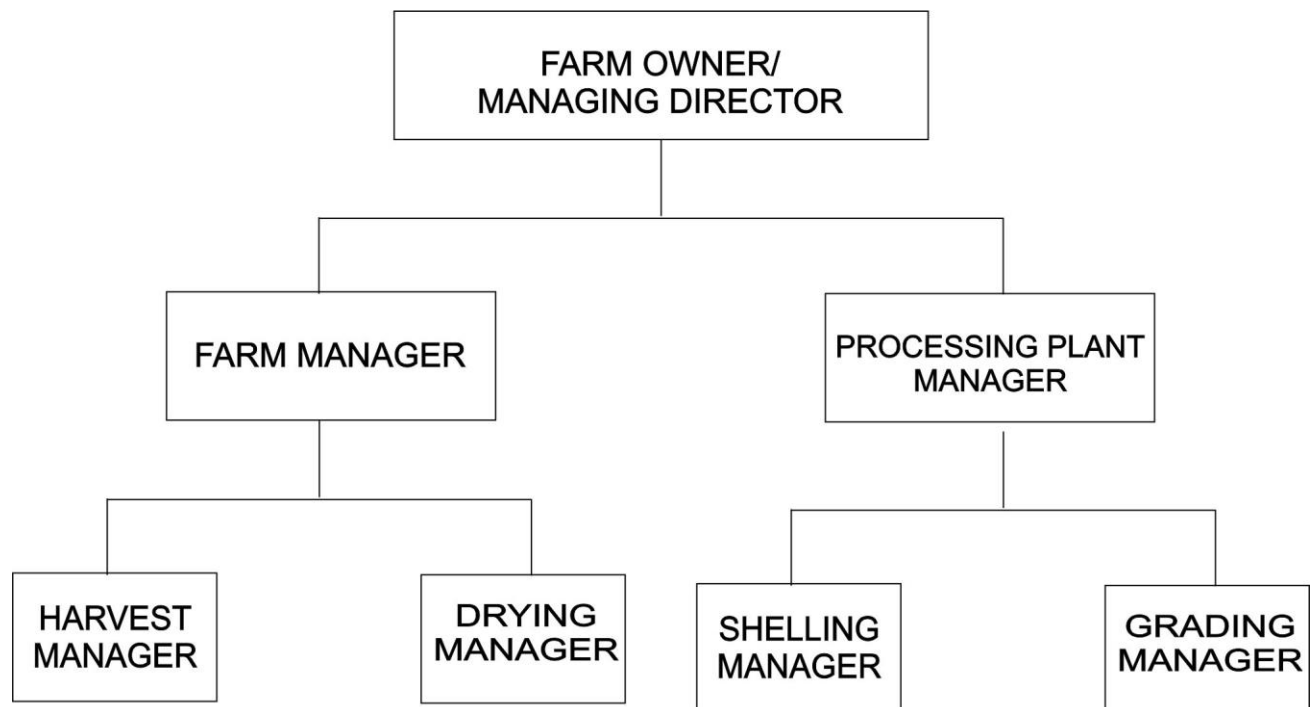
Outspan Nigeria Limited has been a dominant player in the cashew nut processing industry for many years, known for its expertise in transforming raw cashew nuts into high-quality finished products. Located in Km3 Afon Road, Ogbondoroko, Ilorin, Kwara State, the company processes large volumes of cashew nuts, catering to both local and international markets.

The company's operations span the entire value chain of cashew nut processing, which includes harvesting, drying, shelling, peeling, grading, and packaging. Each stage of the process demands precision, and I was fortunate to be fully immersed in each one of these stages.

- **Farm Owner/Managing Director:** The head of the farm, responsible for overall decision-making, business operations, and profitability.
- **Farm Manager:** Oversees day-to-day farm operations, including the growing and harvesting of cashew nuts.
- **Processing Plant Manager:** Manages the entire processing operation, ensuring that the cashews are processed, sorted, packaged, and prepared for distribution.
- **Harvest Manager:** Coordinates the harvesting of cashew nuts, ensuring the quality and timely collection of raw materials.
- **Drying Manager:** In charge of the drying process, ensuring proper drying conditions to preserve the quality of the nuts.
- **Shelling Manager:** Oversees the shelling process, ensuring that cashews are shelled correctly and efficiently without damage to the kernels.

- **Grading Manager:** Ensures that cashew nuts are graded according to size, quality, and appearance, determining their market value.
- **Peeling & Sorting Manager:** Responsible for peeling the cashew kernels and sorting them based on quality.
- **Packaging Manager:** Oversees the packaging stage, ensuring that cashew products are correctly packed, labeled, and prepared for distribution.

## 2.2 COMPANY ORGANOGRAM



## **CHAPTER THREE**

### **3.1 RESPONSIBILITIES AND INVOLVEMENT**

My role during the internship was hands-on and involved direct engagement in every aspect of the processing operation. I was not just an observer but an active participant in the daily tasks, contributing to the workflow and taking on responsibilities to enhance productivity and efficiency.

### **3.2 HARVESTING:**

While I wasn't directly involved in the physical harvesting of cashew nuts, I contributed by assisting with the logistics of raw nut collection, ensuring that only high-quality nuts were selected for processing. I also helped oversee the sorting of harvested nuts to ensure minimal damage during transportation to the processing plant.

### **3.3 DRYING PROCESS:**

I played an essential role in monitoring the drying of cashew nuts. This involved actively managing the drying chambers, ensuring the temperature and humidity were ideal for reducing moisture content. I assisted in maintaining the drying logs and data to track the efficiency and consistency of the drying process, ensuring that each batch of nuts reached the required moisture level before moving to the next stage.

### **3.4 SHELLING:**

One of my main responsibilities was assisting with the shelling of cashew nuts. I was trained to operate shelling machines and supervise the shelling process to ensure efficiency. I identified bottlenecks in the shelling process, such as jams in the machinery, and worked with the technical team to resolve minor issues promptly, thus ensuring minimal downtime.

### **3.5 PEELING AND GRADING:**

As part of the peeling and grading team, I was actively involved in separating the cashew kernels from the remaining shell fragments. I became proficient in using both automated and manual methods to peel the nuts without causing damage. Additionally, I took responsibility for grading cashews based on size, color, and quality, ensuring that each batch met the company's high standards before packaging. I also identified defects during the grading process and worked to develop solutions for improving sorting accuracy.

### **3.6 PACKAGING:**

I was heavily involved in the packaging process, which required careful attention to detail. I ensured that the cashew nuts were sealed correctly, weighed accurately, and properly labeled for distribution. I also collaborated with the quality control team to monitor and improve packaging techniques, preventing issues such as overfilling or underfilling the packages, which could affect product quality.

Throughout these stages, I worked alongside experienced operators and supervisors, receiving valuable mentorship while also contributing fresh ideas to optimize processes.

## CHAPTER FOUR

### METHODOLOGY/PROCESSING STAGES

The processing of cashew nuts involves several critical stages, each demanding precision and attention to detail:

#### 4.1 HARVESTING OPERATION:

I worked with the harvesting team to ensure the selection of ripe cashews. This stage is critical to ensure that the nuts harvested are of high quality, without bruises or damage. My role was to assist in sorting and transporting the cashews to the processing plant.

#### 4.2 DRYING OPERATION:

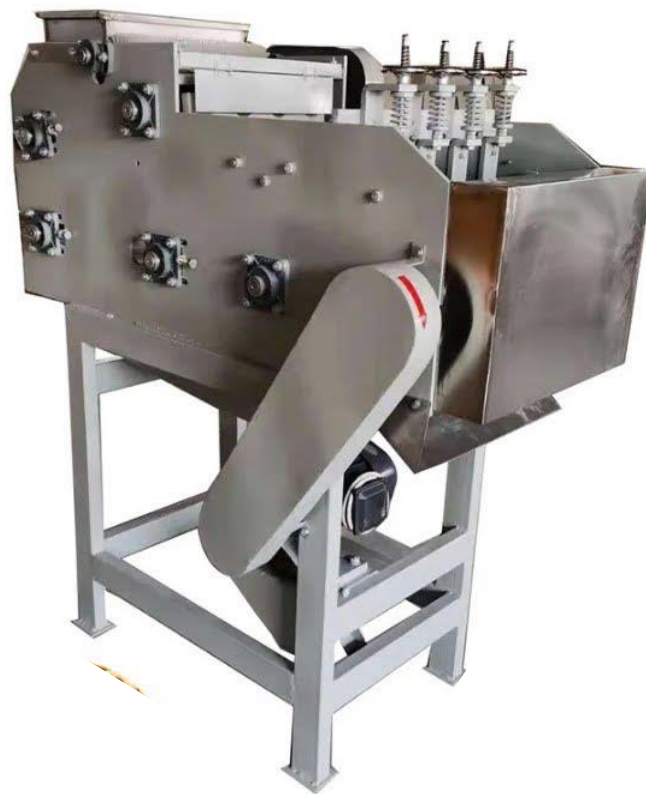
I monitored the drying process, ensuring that the nuts were spread evenly and maintained the right moisture content. This step is essential because improperly dried cashews may become moldy or spoil, affecting the final product quality.



**CASHEW DRYING MACHINE**

#### **4.3 SHELLING OPERATION:**

The shelling process involves cracking open the hard outer shell of the nut, which requires careful handling to prevent damage to the cashew kernel inside. I was trained to use both manual and machine shellers. I assisted in troubleshooting the machinery when problems occurred and suggested modifications to improve efficiency.



**SHELLING MACHINE**

#### **4.4 PEELING AND GRADING OPERATION:**

After the nuts were shelled, I took part in the peeling and grading operations. I peeled the cashew nuts and then sorted them by quality and size. The graded nuts were separated into different categories based on their market value, and I worked on ensuring the accuracy and consistency of the grading process.

#### 4.5 PACKAGING OPERATION:

I participated in the final stage of processing, where the cashew nuts were carefully packaged for shipment. This involved weighing, sealing, and labeling packages. I also worked on optimizing the packaging line to reduce wastage and ensure that all packaging was done according to standard operating procedures.



#### 4.6 CHALLENGES AND SOLUTIONS

While my experience was mostly rewarding, I encountered several challenges that helped me grow as a professional:

- **Operational Delays:** One of the primary challenges I faced was operational delays, particularly during the shelling and peeling stages. Occasionally, machinery would break down or experience delays. I contributed by ensuring that maintenance schedules were strictly followed and worked with the technical team to quickly troubleshoot minor issues, which minimized downtime.



- **Quality Control Issues:** Ensuring that the cashew nuts met the required standards was a continuous challenge, especially during the grading phase. I worked closely with the quality control team, applying new methods of monitoring product consistency, including more precise visual checks and quality logs, which helped reduce errors.
- **Improved Workflow:** At times, the processing lines would get backed up due to inefficiencies in task delegation. I contributed ideas for optimizing workflow, such as suggesting better task coordination among team members and reorganizing the workstations to reduce unnecessary movement.

## **CHAPTER FIVE**

### **5.0 CONCLUSION**

By the end of my internship, I had gained extensive knowledge of the cashew nut processing industry. I became proficient in operating machinery, handling quality control checks, and ensuring product consistency. My involvement in troubleshooting mechanical issues and improving workflows added value to the production process. Additionally, I gained an understanding of how raw materials are transformed into finished products, and I learned how to ensure quality is maintained at every step of the operation.

This experience has not only enhanced my technical skills but has also shaped my problem-solving and team collaboration abilities. I now have a deeper understanding of how large-scale food processing operations are managed and how efficiency is crucial for meeting market demands.

In conclusion, my time at Outspan Nigeria Limited has been invaluable. I was not just a passive observer but an active contributor to the daily operations of the cashew nut processing plant. I learned not only about the technical processes involved in cashew nut processing but also about the challenges and strategies required to maintain smooth operations. The hands-on experience I gained will be essential for my future career, and I am confident that the skills I developed during my internship will serve as a strong foundation for my professional growth.

### **5.1 ACKNOWLEDGMENTS**

I would like to express my sincere thanks to Mr. Johnson, my supervisor at Outspan Nigeria Limited, for their guidance and mentorship throughout my internship. I would also like to acknowledge the entire team for their collaboration and support in making my experience so enriching.