



A TECHNICAL REPORT  
STUDENT INDUSTRIAL WORKING EXPERIENCE SCHEME  
(SIWES)

Held at  
**KWARAPOLY BAKERY**

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## **DEDICATION**

I dedicate this technical report to the Almighty Allah, the giver of knowledge, wisdom and who is rich in mercy.

## **ACKNOWLEDGEMENT**

I take this opportunity to express my profound gratitude and deep regards to the creator of heaven and earth, the one who knows the beginning and the end, the alpha and the omega, the Almighty Allah and also to my guides (MR & MRS BALOGUN), and to all those who has helped me during my SIWES programme. The blessings, help and guidance given by them, time to time has carry me so this far and shall carry on the journey of life on which I am about to embark. I also take this opportunity to express a deep sense of gratitude to compliment my mentor for his cordial support valuable information and guidance which helped me in completing my SIWES through various stages.

Lastly my deep regard to the best and most inspiring siblings.

A big thanks goes to my friends, May Almighty GOD bless, protect, keep, nourish and guide you through all your life's entire journey. And also my regard to the school board of trustees and the staff a very big thank you to all and sundry.

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## **CHAPTER ONE**

### **1.1 INTRODUCTION OF SIWES**

The Student Industrial Work Experience Scheme (SIWES) is a skill development program designed to prepare students of universities, polytechnics, and colleges of education for the industrial work situation they are likely to encounter after graduation. Established by the Industrial Training Fund (ITF) in 1973, SIWES bridges the gap between theory and practice by providing students with the opportunity to gain hands-on experience in their chosen fields. The program is mandatory for students in engineering, technology, science, and other related disciplines, as it equips them with practical skills and exposure to real-world work environments.

More so, SIWES is a program designed by ITF to prepare students for the challenges they will face in their respective fields when they become part of the nation's workforce. Furthermore, ITF through SIWES, aims at ensuring that Universities and Polytechnics do not produce "half-baked graduates" that will not be useful industrially because of their inability to relate the theoretical knowledge acquired to the necessary industrial practice.

Students Industrial Work Experience Scheme (SIWES) is a Skills Training Program designed to prepare and expose Students of Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Colleges of Education for the Industrial Work situation they are likely to meet after graduation. The Scheme affords Students the opportunity of familiarizing and exposing themselves handling equipment and machinery that are usually not available in their institutions.

Over the years, SIWES has contributed immensely to building the common pool of technical and allied skills available to the Nigerian Economy which is needed for the nation's industrial development. These contributions and achievements have been possible because of regular innovations and improvements in the modalities employed for the management of the scheme. In view of acquired industrial skill, the Federal University of

Agriculture, Abeokuta (FUNAAB) has made it compulsory for all students to undergo the Students Industrial Work Experience Scheme (SIWES). Therefore, Universities and Polytechnics now produce graduates with a great wealth of experience.

## **1.2 HISTORY OF SIWES**

The SIWES program was introduced in Nigeria in 1973 by the Industrial Training Fund (ITF) to address the growing concern about the lack of practical skills among graduates. The scheme was created in collaboration with the Nigerian Universities Commission (NUC), the National Board for Technical Education (NBTE), and the National Commission for Colleges of Education (NCCE). Over the years, SIWES has evolved to become a critical component of tertiary education in Nigeria, ensuring that students are wellprepared for the demands of the labor market.

The Students' Industrial Work Experience Scheme (SIWES) was initiated in 1973 by the Federal Government of Nigeria under the Industrial Training Fund (ITF) to bridge the gap between theory and practice among products of our tertiary Institutions. It was designed to provide practical training that will expose and prepare students of Universities, Polytechnics, and Colleges of Education for work situation they are likely to meet after graduation.

Before the establishment of the scheme, there was a growing concern among the industrialists that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment in industries. Thus the employers were of the opinion that the theoretical education going on in higher institutions was not responsive to the needs of the employers of labour.

As a result of the 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 was taken over by the Federal

Government and handed to National Universities commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE). In 1984, the Federal Government reverted back to ITF which took over the scheme officially in 1985 with funding provided by the Federal Government

### **1.3. OBJECTIVES OF THE PROGRAMME**

The primary objectives of SIWES include:

- To bridge the gap between theoretical knowledge and practical application.
- To expose students to industry practices and workflows.
- To develop skills in procurement, supply chain management, and inventory control.
- To prepare students for future employment by equipping them with relevant industry experience.
- Expose students to work methods and techniques in the handling of equipment and machinery that may not be available in schools.
- Make transition from school to the labour market smooth and enhance students' conduct for later job placement
- Provide students with the opportunity to apply their knowledge in real life work situation thereby bridging the gap between theory and practice
- Strengthen employer involvement in the entire educational process and prepare students for employment in industry

Promote the desired technological knowhow required for the advancement of the nation.

#### **1.4. OBJECTIVES OF ESTABLISHMENT**

The establishment of SIWES was driven by the need to:

- Address the gap between academic training and industry requirements.
- Produce graduates who are not only theoretically sound but also practically competent.
- Promote collaboration between educational institutions and industries.
- Enhance the quality of education by integrating practical training into the curriculum.
- Contribute to national development by producing a skilled workforce capable of driving innovation and economic growth.
- To maintain good relationship with patients, relations and the community through health education.
- To carry out diagnosis and intervention.
- To provide training for students.
- To maintain sufficient hospital supply of equipment and promote their utilization and maintenance.



## **CHAPTER TWO**

### **2.1. BENEFIT DERIVED FROM SIWES PROGRAMME**

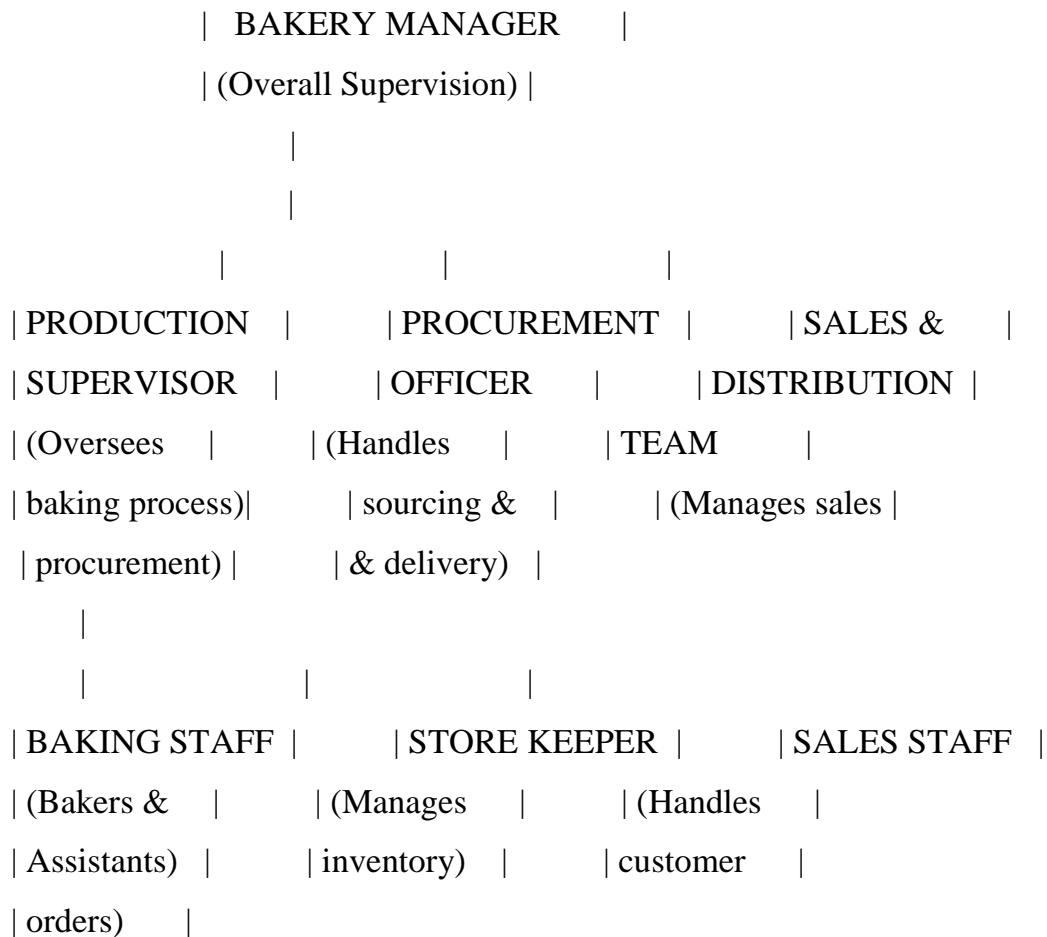
The experience, knowledge, skills and exposure acquired during the period of attachment in the industrial exercise cannot be over emphasized. I was exposed to certain areas in my course of study, such as:

1. **Skill Development:** Students acquire practical skills and competencies that are essential for their professional growth.
2. **Industry Exposure:** The program provides students with firsthand experience of industrial operations, processes, and technologies.
3. **Networking Opportunities:** Students interact with professionals in their field, building valuable connections for future career prospects.
4. **Enhanced Employability:** Employers prefer candidates with practical experience, making SIWES participants more competitive in the job market.
5. **Improved Academic Performance:** The application of theoretical knowledge in realworld scenarios enhances students' understanding of their coursework.
6. **Contribution to National Development:** By producing a skilled workforce, SIWES contributes to the economic and technological advancement of the nation.

### **2.2 OVERVIEW OF THE ORGANIZATION**

Kwarapoly Bakery is a small-scale bakery located within the premises of Kwara State Polytechnic. It specializes in the production of baked goods such as bread, cakes, pastries, and snacks. The bakery serves both the polytechnic community and external customers. Its operations involve procurement of raw materials, production, packaging, and distribution.

## 2.3 ORGANIZATIONAL CHART OF THE ORGANIZATION



## ROLES AND RESPONSIBILITIES

### Bakery Manager

- Oversees all bakery operations.
- Ensures quality control and customer satisfaction.
- Manages budgets and financial performance.

### Production Supervisor

- Supervises the baking process.
- Ensures adherence to recipes and quality standards.
- Manages the baking staff and schedules.

**Procurement Officer**

- Sources and purchases raw materials and equipment.
- Negotiates with suppliers for the best prices and terms.
- Maintains supplier relationships.

**Store Keeper**

- Manages inventory of raw materials and finished products.
- Tracks stock levels and ensures proper storage.
- Prepares reports on inventory status.

**Sales and Distribution Team**

- Handles customer orders and deliveries.
- Manages retail sales (if applicable).
- Ensures timely distribution of products.

**Baking Staff**

- Prepares and bakes products according to recipes.
- Maintains cleanliness and hygiene in the production area.

**Sales Staff**

- Serves customers and processes orders.
- Handles cash transactions and maintains sales records.

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This organizational chart provides a clear structure of roles and responsibilities within Kwarapoly Bakery, ensuring smooth operations and effective management.

## 2.4 INTRODUCTION TO APPARATUS AND THEIR FUNCTIONS

In any industrial or production setting, the use of appropriate apparatus and equipment is essential for efficient operations. In the context of a bakery like **Kwarapoly Bakery**, various tools and machines are used to ensure the smooth production of baked goods. Below is an introduction to some common bakery apparatus and their functions:

### 1. OVEN

**Function:** The oven is the most critical apparatus in a bakery. It is used for baking bread, cakes, pastries, and other baked goods. It provides controlled heat to ensure even baking and proper texture.

**Types:** Conventional ovens, convection ovens, and deck ovens.

**Importance:** Ensures consistent product quality and proper cooking of dough.



## 2. MIXER

**Function:** A mixer is used to combine ingredients such as flour, water, sugar, and yeast to form dough or batter. It saves time and ensures uniformity in mixing.

**Types:** Planetary mixers, spiral mixers, and handheld mixers.

**Importance:** Reduces manual labor and ensures consistent dough quality.



## 3. DOUGH SHEETER

**Function:** This machine is used to roll out dough into a consistent thickness for pastries, pies, and other baked goods.

**Importance:** Ensures uniformity in product size and thickness, which is crucial for even baking.



#### 4. SCALES AND MEASURING TOOLS

**Function:** Scales and measuring tools are used to accurately measure ingredients such as flour, sugar, and yeast.

**Types:** Digital scales, measuring cups, and spoons.

**Importance:** Ensures precision in recipes, which is critical for consistent product quality.



#### 5. BAKING TRAYS AND PANS

**Function:** These are used to hold dough or batter during baking. They come in various shapes and sizes depending on the product being baked.

**Importance:** Provides structure to baked goods and ensures even heat distribution.



## 6. COOLING RACKS

**Function:** Cooling racks are used to cool baked goods after they are removed from the oven. They allow air to circulate around the products, preventing soggy.

**Importance:** Ensures proper cooling and maintains the texture of baked goods.



## 7. PACKAGING MACHINES

**Function:** Packaging machines are used to wrap and seal baked goods for distribution and sale.

**Importance:** Ensures hygiene, extends shelf life, and enhances product presentation.





## 8. UTENSILS (SPATULAS, WHISKS, BOWLS)

**Function:** These handheld tools are used for mixing, scraping, and handling ingredients during preparation.

**Importance:** Facilitates manual tasks and ensures efficient workflow.



## 9. SLICING MACHINE

**Function:** Used to slice bread and other baked goods into even portions.

**Importance:** Enhances presentation and convenience for customers.





## 14. TEMPERATURE AND HUMIDITY GAUGES

**Function:** These tools monitor the environment during proofing and baking to ensure optimal conditions.

**Importance:** Critical for maintaining product consistency and quality.



The proper use of these apparatus and tools is essential for the efficient operation of a bakery like Kwarapoly Bakery. Each piece of equipment plays a specific role in ensuring the quality, consistency, and efficiency of the baking process. Familiarity with these tools and their functions is crucial for anyone working in a bakery setting.

## **CHAPTER THREE**

### **3.1 ROLES AND RESPONSIBILITIES DURING THE TRAINING**

During my **Student Industrial Work Experience Scheme (SIWES)** at **Kwarapoly Bakery**, I was assigned various roles and responsibilities that allowed me to gain hands-on experience in the bakery's operations. Below is a detailed outline of my roles and responsibilities during the training period:

#### **1. ASSISTING IN THE PROCUREMENT PROCESS**

**Role:** Supported the procurement officer in sourcing and purchasing raw materials.

**Responsibilities:**

Assisted in identifying suppliers for ingredients like flour, sugar, yeast, and butter.

Helped in preparing purchase orders and verifying deliveries.

Inspected received materials to ensure they met quality standards.

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#### **2. INVENTORY MANAGEMENT**

**Role:** Assisted the storekeeper in managing inventory.

**Responsibilities:**

Monitored stock levels of raw materials and finished products.

Recorded inventory data using manual or digital systems.

Ensured proper storage of materials to prevent spoilage or damage.

Applied the **First-In-First-Out (FIFO)** method to manage stock.

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#### **3. PRODUCTION ASSISTANCE**

**Role:** Worked with the production team to prepare baked goods.

**Responsibilities:**

Assisted in measuring and mixing ingredients using scales and mixers.

Helped in kneading, shaping, and proofing dough.

Operated baking equipment such as ovens and dough sheeters under supervision.

Monitored baking times and temperatures to ensure product quality.

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#### **4. QUALITY CONTROL**

**Role:** Supported the quality control team in maintaining product standards.

**Responsibilities:**

Inspected raw materials for freshness and quality.

Checked finished products for consistency in size, texture, and appearance.

Reported any deviations from quality standards to the supervisor.

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#### **5. PACKAGING AND LABELING**

**Role:** Assisted in the packaging of finished products.

**Responsibilities:**

Packaged baked goods such as bread, cakes, and pastries.

Ensured proper labeling with product names, dates, and ingredients.

Maintained hygiene and cleanliness during packaging.

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#### **6. SALES AND CUSTOMER SERVICE**

**Role:** Supported the sales and distribution team.

**Responsibilities:**

Assisted in serving customers at the bakery's retail outlet.

Processed customer orders and handled cash transactions.

Provided information about products to customers.

Ensured timely delivery of orders to customers or retail outlets.

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#### **7. CLEANING AND MAINTENANCE**

**Role:** Contributed to maintaining a clean and safe working environment.

**Responsibilities:**

Cleaned workstations, equipment, and utensils after use.

Ensured compliance with hygiene and safety standards.

Assisted in routine maintenance of bakery equipment.

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## **8. DOCUMENTATION AND REPORTING**

**Role:** Assisted in documenting daily activities and reports.

**Responsibilities:**

Recorded production data, including quantities of baked goods produced.

Prepared inventory reports and procurement logs.

Documented challenges observed during operations and suggested solutions.

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## **9. LEARNING AND DEVELOPMENT**

**Role:** Actively participated in learning and skill development.

**Responsibilities:**

Observed and learned from experienced staff.

Asked questions to clarify doubts and improve understanding.

Applied theoretical knowledge from school to practical tasks.

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## **10. TEAMWORK AND COMMUNICATION**

**Role:** Collaborated with team members to achieve bakery goals.

**Responsibilities:**

Communicated effectively with supervisors and colleagues.

Participated in team meetings and discussions.

Supported colleagues during peak production periods.

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My roles and responsibilities during the SIWES training at Kwarapoly Bakery provided me with a comprehensive understanding of bakery operations. I gained practical skills in procurement, production, inventory management, quality control, and customer service. This experience has significantly enhanced my readiness for a career in the hospitality and bakery industry.

## **CHAPTER FOUR**

### **4.1 SUMMARY OF EXPERIENCE**

My **Student Industrial Work Experience Scheme (SIWES)** at **Kwarapoly Bakery** was an enriching and transformative period that allowed me to apply theoretical knowledge from the classroom to real-world bakery operations. Over the course of the training, I was exposed to various aspects of bakery management, including procurement, production, inventory management, quality control, and customer service. Below is a summary of my experience:

#### **KEY AREAS OF EXPOSURE**

##### **Procurement and Supply Chain Management:**

- Assisted in sourcing raw materials such as flour, sugar, yeast, and butter.
- Learned how to negotiate with suppliers and manage delivery schedules.
- Gained insight into the importance of quality control in procurement.

##### **Production Process:**

- Participated in the preparation of dough, mixing ingredients, and operating baking equipment.
- Learned about the baking process, including proofing, baking, and cooling.
- Gained hands-on experience with tools like mixers, ovens, and dough sheeters.

##### **Inventory Management:**

- Monitored stock levels and ensured proper storage of raw materials and finished products.
- Applied the **First-In-First-Out (FIFO)** method to manage inventory.
- Prepared inventory reports and assisted in stocktaking.

##### **Quality Control:**

- Inspected raw materials and finished products to ensure they met quality standards.
- Learned how to identify and address deviations in product quality.

**Packaging and Labeling:**

- Packaged baked goods such as bread, cakes, and pastries.
- Ensured proper labeling with product names, dates, and ingredients.

**Sales and Customer Service:**

- Assisted in serving customers at the bakery's retail outlet.
- Processed customer orders and handled cash transactions.
- Provided information about products and ensured customer satisfaction.

**Cleaning and Maintenance:**

- Maintained a clean and hygienic working environment.
- Assisted in the routine cleaning and maintenance of bakery equipment.

**Teamwork and Communication:**

- Collaborated effectively with colleagues and supervisors.
- Participated in team meetings and contributed ideas for improving operations.

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**SKILLS DEVELOPED****Technical Skills:**

- Operating bakery equipment such as mixers, ovens, and dough sheeters.
- Measuring and mixing ingredients accurately.
- Packaging and labeling products.

**Soft Skills:**

- Communication and customer service.
- Teamwork and collaboration.
- Time management and multitasking.

**Problem-Solving Skills:**

- Identifying and addressing challenges in procurement, production, and inventory management.

## **CHALLENGES ENCOUNTERED**

- **Supplier Delays:** Occasional delays in the delivery of raw materials disrupted production schedules.
- **Inventory Management:** Limited storage space made it challenging to maintain optimal stock levels.
- **Equipment Maintenance:** Some equipment required frequent maintenance, which occasionally slowed down operations.

## **ACHIEVEMENTS**

- Successfully contributed to the daily production of high-quality baked goods.
- Improved my understanding of bakery operations and supply chain management.
- Received positive feedback from supervisors for my dedication and willingness to learn.

## CHAPTER FIVE

### 5.1 CONCLUSION

My **Student Industrial Work Experience Scheme (SIWES)** at **Kwarapoly Bakery** has been an invaluable and transformative experience. Over the course of the training, I gained practical knowledge and hands-on skills in various aspects of bakery operations, including procurement, production, inventory management, quality control, and customer service. This experience allowed me to bridge the gap between theoretical learning and real-world application, providing me with a deeper understanding of the bakery industry.

I was able to contribute meaningfully to the bakery's daily operations, from assisting in the procurement of raw materials to participating in the production and packaging of baked goods. I also developed essential soft skills such as teamwork, communication, and problem-solving, which are critical for success in any professional environment. Despite encountering challenges such as supplier delays and inventory management issues, I learned to adapt and find solutions, further enhancing my resilience and resourcefulness. This training has not only equipped me with technical skills but also instilled in me a strong work ethic and a commitment to quality and efficiency. I am confident that the knowledge and experience gained during my SIWES program will serve as a solid foundation for my future career in the hospitality and bakery industry.

I am deeply grateful to **Kwara State Polytechnic** for providing this opportunity and to **Kwarapoly Bakery** for their guidance and support throughout the training period. This experience has been a significant step in my professional development, and I look forward to applying the lessons learned in my future endeavors.



## **5.2 RECOMMENDATION**

To improve the efficiency of the procurement and supply chain management process, I recommend the following:

### **1. IMPROVE EQUIPMENT MAINTENANCE**

- Recommendation: Implement a preventive maintenance schedule for all production equipment to reduce downtime and improve efficiency.
- Reason: Regular maintenance can prevent unexpected breakdowns and extend the lifespan of machinery.

### **2. ENHANCE QUALITY CONTROL MEASURES**

- Recommendation: Invest in advanced testing equipment and train staff on modern quality control techniques.
- Reason: This will ensure consistent product quality and compliance with regulatory standards.

### **3. DIVERSIFY SUPPLIER BASE**

- Recommendation: Engage multiple suppliers for critical raw materials to reduce dependency on a single source.
- Reason: This will mitigate risks associated with supplier delays or shortages.

### **4. ADOPT TECHNOLOGY FOR INVENTORY MANAGEMENT**

- Recommendation: Use inventory management software to track stock levels in real-time.
- Reason: This will improve accuracy in inventory records and reduce the risk of overstocking or stock-outs.

### **5. IMPROVE WORKER SAFETY**

- Recommendation: Conduct regular safety training sessions and provide adequate personal protective equipment (PPE) for all staff.
- Reason: A safe working environment reduces the risk of accidents and improves employee morale.

## **REFERENCE**

Kwara State Polytechnic for providing the opportunity to participate in the SIWES program.

Kwarapoly Bakery for allowing me to gain hands-on experience and learn from their operations.

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