KWARA STATE POLYTECHNIC, ILORIN

A TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

HELD AT

MINISTRY OF AGRICULTURE & RURAL DEVELOPMENT

P.M.B. 1383, old jebba road Sango, Ilorin, Kwara

By

ABDULFATAI AZEEZAT

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REPORT OVERVIEW

Here is an overview report of the Student Industrial Work Experience Scheme (SIWES), which was carried out at KWARA STATE MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT, Old Jebba Road, P.M.B,1383, Ilorin, Kwara State. The SIWES spanned through a period of FOUR (4) months starting from the August, 2024 to November, 2024. The first chapter of this report comprises of Introduction, background and objectives of SIWES. The second chapter gives a brief description of the establishment of attachment (Kwara State Ministry Of Agriculture and Rural Development) such as location and brief history of establishment, objectives of establishment, organizational structure (including organogram) and the various departments in the establishment and their functions. The third and fourth chapters explicitly explain the work and activities carried out with clear statements on experiences gained. The last chapter contains the summary, conclusion and recommendations.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND OF STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)

The Student Industrial Work Experience Scheme (SIWES) was introduced in 1973 by the Industrial Training Fund (ITF), an institution established by the Federal Government of Nigeria to carry out training programme for students in tertiary institutions of the country.

SIWES is more or less skill training programme, which forms part of the approved minimum academic requirement in the various degree programmes for all Universities in Nigeria. It is an effort to bridge the gap existing between theory and practice of Engineering and Technology, Science, Agriculture, Medicine, Management and other professional Education programme in Nigeria tertiary institutions.

It is aimed at exposing students to the operation of machine and equipment, which are usually not available in the educational institutions.

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

Kwara State Polytechnic, Ilorin actively engages her eligible 200level Students on the scheme for a period of four months to the final session. This is the period students are expected to have full Industrial Training Experience.

1.2 OBJECTIVES OF SIWES

Specifically, the objectives of the Student Industrial Work Experience Scheme are

to:

1) Certification for different Nigeria Universities to acquire basic industrial skills and experience in their respective course of study.

2) Make students aware of what they are likely expected to meet after their graduation from the University.

3) Get students acquainted to different industrial work methods and techniques in handling equipment and machinery that may not be available in the universities.

4) Provide students with an opportunity to apply their theoretical knowledge in real work situation, thereby bridging the gap between university work and actual practice.

5) Enlist and strengthen employers' involvement in the entire educational process of preparing university graduates for employment in industry.

1.3 BRIEF HISTORY OF INDUSTRIAL TRAINING FUND

The Industrial Training Fund (ITF) is a government parastatal established for man power training and development. It was established in line with the post - independence drive for accelerated economic growth and development during the plan period (1970 - 1974). ITF was established with the specific mandate of transforming the Nigerian economy from its predominant dependence on foreign expertise to a state of self-reliance through training and development of Nigerians who would be competent to perform specialized duties required to manage the essential sectors of the Nigerian economy. The training fund has operated consistently and painstakingly within context of its enabling law i.e. decree 47 of 1971. The objective for which the fund was established has been pursued vigorously and efficaciously.

1.4 OBJECTIVE OF THE REPORT

The objectives are:

1) To develop student´s skill in good technical report writing.

2) To give an adequate and concise account of the skills received during the training period.

3) To explain the relevance of the Industrial Training to Agriculture in general and Agricultural Extension in particular and also helps to offer some suggestions for both establishments and agriculture as to which ways their collaboration can be improved.

CHAPTER TWO

2.0 BRIEF HISTORY OF ESTABLISHMENT (MARD)

The Ministry is as old as the State itself. At the creation of the State in 1967, it took off with three departments, namely Forestry, Veterinary and Agric Services. Later, Forestry department was exercised to the Ministry of Environment where it is more relevant and renamed Ministry of Agriculture and Rural Development. Subsequently, other important departments of Fisheries, Livestock were created to bring their functions to the disposal of the farmers. As at today, the Ministry has four core departments: Agriculture and Engineering Services, Fisheries, Livestock and Veterinary. Because of the importance of the Ministry to food Security and the need to propagate new methods of farming that will reduce the drudgery of Farming, the Kwara State Agric Development Project (ADP) was established in 1989 while State Fadama Project was established in 2005 as Parastatal/Agency to take the new methods of farming to the doorsteps of farmers in the State. These departments with ADP and Fadama are coordinated by Administrative and Planning, Research and Statistics departments respectively.

2.1 OBJECTIVE OF MARD

The Kwara State Government is committed to the Development and expansion of its Agricultural potential in order to ensure:

i Food Security for its citizens

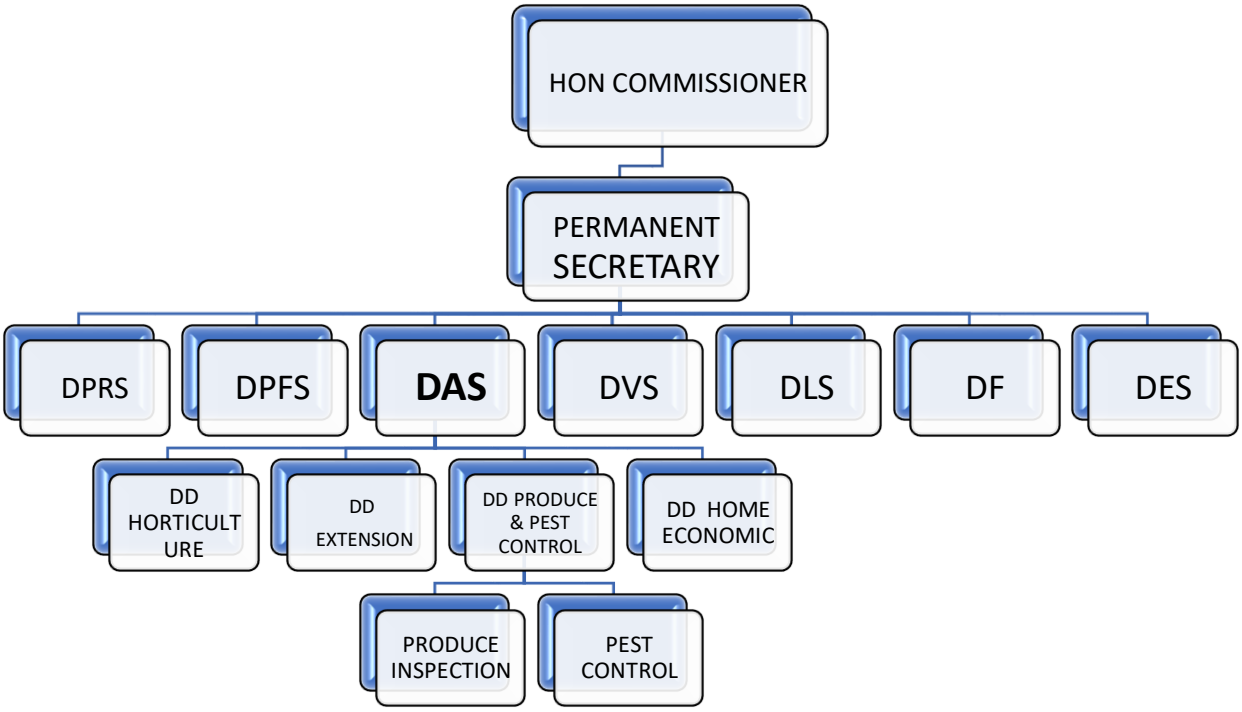
ii Transformation of the Agricultural Sector from Subsistence to Commercial farming to support Local Consumption, Export Production and the Generation of raw materials for Agro allied industries.

iii Sustenance of employment generation that would significantly contribute to the internally generated revenue of the State- as well as Socio-economic empowerment

of the Citizen.

2.2 ORGANOGRAM OF MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

ORGANIZATIONAL STRUCTURE OF THE ESTABLISHMENT



KEY

DPRS : DIRECTOR PLANNING RESEARCH AND STASTITICS
DFS : DIRECTOR PERSONEL, FINANCE AND SUPPLY
DAS : DIRECTOR AGRIC SERVICES
DVS : DIRECTOR VETRINARY SERVICES
DLS : DIRECTOR LIVESTOCK SERVICES
DF : DIRECTOR FISHERY
DES : DIRECTOR ENGINEERING SERVICES
DD : DEPUTY DIRECTOR

2.3 BRIEF HISTORY OF DEPARTMENT OF AGRICULTURAL SERVICES

The Agric Services is one of the Six Directorates of the Ministry of Agriculture and rural Resources. The Directorate consists of four Divisions. Each of the Divisions has their respective responsibilities to accomplish the Government policies which are hereafter enumerated. But in general, the Directorate is responsible for raising of assorted tree crops seedlings, production of vegetables and ornamental plants. Disseminating information on improved technological approach in farming to the Farmers through the Extension Agents and collection of information for research and agricultural improvement. Improved nutrition training to the Rural Women is the responsibility of the Home Economics of the Directorate. Produce grading, grain storage, produce quality control, pest and weed control activities are the responsibilities of Pest and Produce Division.

2.4. DIVISIONS IN AGRIC SERVICES

2.4.1. EXTENSION DIVISION (CROPS)

Extension division is one of the Divisions in the Agric Services Directorate of the Ministry of Agriculture and Rural Development.

The objectives of the Division include among others;

1. Provision of enabling environment for agricultural practitioners in Kwara State.
2. Facilitating availability of agricultural inputs on subsidy where and when necessary.
3. Provision of extension services on crop activities.

4. Co-ordination of the State agricultural programmes and projects to ensure achievement of set targets/objectives and ensuring success of National Policies on agriculture in Kwara State
5. Carrying out independent field researches and in collaboration with Agricultural Researchers to obtain adequate agricultural information in the State.

2.4.2. HORTICULTURE DIVISION.

MANDATE OF THE DIVISION

i. Raising of assorted tree crops and ornamental plants in nurseries where new plants are grown before being sold to the public.

ii. Production of vegetable plants for the public.

iii. Consulting for public about the selection of plants suitable for their needs

iv. Recommending new planting designs or layouts based on client needs, available space, sunlight requirements, and other considerations

2.4.3. PRODUCE/PEST DIVISION.

DUTIES

i. Control of pests on the field and residential
ii. Registration of produce merchants

iii. Grading of quality produce

iv. Storage of produce i.e. grains in the store

v. Storage of fertilizer procured by the State Government

2.4.4. HOME ECONOMICS DIVISION.

There are five [5] Home Economics centers for the processing of food, namely: Offa, Omu-aran, Oyun, Osi and Headquarter. All these centers except Headquarter have been abandoned due to dilapidation of the structures. Meanwhile staff stationed at these stations gets alternative means of discharging their duties.

Center for breast feeding support programme.

This programme was designed to help nursing mothers to be able to breast feed their babies during working hours. The Headquarter and Baboko market centers are the functional ones to date.

CHAPTER THREE

3.0 ACTIVITIES PARTICIPATION AND EXPERIENCE GAINED

During my SIWES program at Department of Agric service, I was able to attend lectures on;

i) Vegetable farming

ii) System of pest control

iii) Extension methods

iv) Soya beans and soya cheese preparation

3.1 VEGETABLE FARMING

Vegetable farming is the growing of vegetables for human consumption. The practice probably started in several years ago, with families growing vegetables for their own consumption or to trade locally. Different techniques have emerged over years in growing vegetables. Some of these techniques include:

3.1.1 JUTE MALLOW PRODUCTION

PROPAGATION OF JUTE MALLOW

Jute mallow is propagated by seed and planted either by direct seedlings or transplanting.

Direct seedlings are used when the seed is plenty and labour is limited.

Transplanting is preferable when there are limited supply of seed and plenty labour is required

LAND PREPARATION

Soil should be prepared by ploughing two times and leveling of soil for uniform bed

formation.

GERMINATION PERIOD

Jute mallow will germinate uniformly in about 4-5 days when the dormancy of the seed has been broken. The seed has a dormancy period and may take several days to germinate. The dormancy is broken by putting seed in a cloth bag and steeping them in just boiled water for 10 seconds.

MATURITY PERIOD

Jute mallow is harvested 30-40 days after planting depending on variety. Some varieties are sensible to short day length causing them to bloom very early.

FERTILIZER APPLICATION

Jute respond well to added fertilizer especially Nitrogen. Combinations of both inorganic and organic fertilizer improves yield and maintain soil fertility.

Fertilizer can be added 2 weeks after planting. The rate of fertilizer application depends on soil fertility, soil types and soil organic matter. A soil test is highly recommended to determine the available NPK.

HARVESTING

Harvesting can begin after about six weeks. Leaves and young shoots can be pruned from the plant as they emerge and are most desirable when young. Growth will continue and edible portion can be harvested continuously. *picture showing harvested jute mallow*

MAJOR PEST AND DISEASES AND THEIR MANAGEMENT

The foliage and shoot tips of jute are susceptible to damage by insect and spider mites.

Nematodes *(Meloidogyne spp*) cause stunting of plant and damping off caused by *Rhizoctonia*.

CONTROL OF JUTE MALLOW DISEASE AND PEST

Insect pest may be managed by crop rotation, and application of pesticides

NOTE: *Choose a pesticide that target the pest and they should be one that last only for a short period to avoid exposing consumer to pesticide residue and avoid the one that kill beneficial organisms.*

The pathogen is managed through the use of raised bed, well-drained soil, proper watering and crop rotation.

MEDICINAL USE OF JUTE MELLOW

1. It strengthen the bone
2. Stabilizes blood pressure
3. Prevent skin cancer
4. Solve hair problem
5. Prevent Ageing
6. It can be used to induce contraction
7. It can be used to cure ulcer

3.2 PEST CONTROL

A pest is any organism that Damages crops, livestock and Competes with humans for food, water, or shelter in order to Spreads diseases or causes health risks. Examples of pests are Insects (e.g., mosquitoes, cockroaches, termites) Rodents (e.g., rats, mice) Weeds (e.g., invasive plants) Microorganisms (e.g., bacteria, viruses) Nematodes (e.g., parasitic worms)Fungi (e.g., mold, mildew)

METHODS OF PEST CONTROL:

1. Cultural Control: Modify practices to prevent pest infestations.

2. Physical Control: Use physical barriers or traps.

3. Chemical Control: Use pesticides.

4. Biological Control: Use living organisms to control pests.

5. Integrated Pest Management (IPM): Combine multiple methods.

6. Organic Pest Control: Use natural methods.

Modern Pest Control Methods:

1. Precision Agriculture: Use technology (e.g., drones, satellite imaging) to monitor and control pests.

2. Genetic Engineering: Develop pest-resistant crops.

3. RNA Interference (RNAi): Silence pest genes.

4. Biopesticides: Use microorganisms or natural compounds.

Importance of Pest Control:

1. Prevents crop losses

2. Reduces disease transmission

3. Protects livestock and human health

4. Preserves ecosystem balance

5. Supports food security

Challenges in Pest Control:

1. Resistance to pesticides

2. Environmental concerns

3. Climate change

4. Emerging pests

5. Limited resources

Effective pest control requires a holistic approach, considering ecological, economic, and social factors.

3.3. PRODUCTION OF SOYA MILK AND SOYA CHEESE

Soya milk is gotten from Soya bean. The protein in soy milk is healthy, plant-based, and can help support healthy muscles and organs. Soy milk is rich in omega-3 fatty acids, which are “healthy” fats that your body cannot form on its own. Omega-3 fatty acids are linked to a reduced risk of dementia and Alzheimer's disease.

3.3.1. PREPARATION OF SOYA MILK

1. Sorting of Soyabean manually
2. Two bowls of soybean is used
3. Rinse the two bowls of Soyabean
4. Soak for 3 to 4 hours over night
5. Grind it with minimal water to make it tick.
6. Sieve with muslin cloth to filter after grinding
7. Put the sieved liquid in a pot already on fire
8. Allow to boil for 15-20 minutes
9. Pour into the muslin cloth to sieve it again
10. Add sugar and little along-side when sieving to make the sugar melt and make it tasty.
11. Fill it into a 50cl bottle with a funnel. It can be taken either cold or hot

3.2.2 SOYA CHEESE PREPARATION

1. Grind the soya beans
2. sieve with muslin cloth to filter it
3. Pour the sieved content in a pot already on fire
4. Add fermented corn water called ‘omiogi’ in Yoruba language in order for it to coagulate when it has boiled 10-20 minutes
5. Pack the coagulated filtrate to a muslin cloth and allow water to drain.
6. Pour back into the pot already on fire, add pepper and maggi and stir
7. Pour back in muslin cloth and press under a jack to drain the water to solidify
8. Remove the solidified content from the jack in the muslin cloth
9. Remove the muslin cloth and place in a tray to cut then fry in hot groundnut oil or any type of oil good for frying on the fire
10. When it is brownish in colour from frying remove from fire, allow oil to drain and pack into nylon.

CHAPTER FOUR

4.0 EXPERIENCE GAINED IN THE EXTENSION DEPARTMENT

Agricultural Extension involves the dissemination of innovative information to Farmers and his household in other to increase farmer's income, farmer's production, farmer's livelihood

4.1 PRINCIPLES OF AGRICULTURAL EXTENSION

* Extension work starts from people i.e. where they are (location)

* Extension is based on clearly stated and specific objectives

* Extension work is based on the cultural needs and interest of the people you are willing to reach

* It should not be forced on people

4.2 ADOPTION OF INNOVATION

Adoption is the process of transferring innovative ideas, knowledge to Farmers in other to accept for practice.

PROCESS OF ADOPTION

i Awareness

ii Evaluation

iii Interest

iv Adoption

v Trial

METHODOLOGY OF EXTENSION

i. Communication

ii. Diffusion: This involves passing the same information to Farmers the same way.

iii. Adoption: This involves the acceptance of innovation

EXTENSION METHODOLOGY OF TECHNOLOGY DESSEMINATION

i. Workshop
ii. Seminar
iii. Conference
iv. Agric shows
v. Field days

4.3 EXTENSION TEACHING METHOD

Extension teaching method can be defined as a medium of communication between the instructor and the learner.

QUALITIES OF GOOD EXTENSION AGENT

i. Must be knowledgeable on the field
ii. Don't underrate the farmers
iii. Must be articulate i.e. get yourself prepared
iv. It should be down to earth
v. Be a problem solver

EXTENSION METHOD

1. Individual contact
2. Group contact
3. Mass contact

INDIVIDUAL CONTACT: The extension agent meets the farmer at home or on the farm and discusses issues of mutual interest, giving the farmer both information and advice.

Types of individual method

i. Family and home visit,

ii. Phone calls,

iii. Personal letters,

iv. Result demonstration

GROUP CONTACT: It is a method in which a group of interested farmers accompanied and guided by an extension worker, goes on a tour to see and gain first-hand knowledge of improved practices in their natural setting. Is majorly for early and late adopters.

Types of group method

i. Group meeting,

ii. Group discussion

MASS CONTACT: An extension worker has to approach a large number of people for disseminating new information & helping them to use it.

Types of mass method

i. Newspaper,

ii. Radio,

iii. Television,

iv. Publications

4.4 PROBLEMS ENCOUNTERED DURING THE PROGRAM

There were quite a number of problem and challenges during the industrial attachment program. These problems include;

- Limited number of equipment was available which made work slow, tiring and time wasting
- Inadequate monitoring of students on industrial training
- There was low level of infrastructures
- The distance from home to place of attachment is quite far and sometimes caused delay in arriving to work.

CHAPTER FIVE

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 CONCLUSION

The Student Industrial Work Experience was quite inspiring, updating and revealing. It exposed me to real life situations as it relates to my noble profession as an Agricultural Extension agent. My knowledge of most of the courses taught- topic like extension teaching methods, leadership, monitoring and evaluation, introduction to agricultural extension and rural sociology and agronomy before going for the industrial Training afforded me the opportunity to contribute significantly to the organization and the programme.

The gap between my theoretical classroom experience and the practical knowledge has been closed. Aside this, it has also improved my capacity, social relationships and team work.

4.2 RECOMMENDATIONS

The Student Industrial Work Experience Scheme (SIWES) is a laudable scheme that prepares students for the challenges ahead and for this reason it should be continued. Considering the importance of the scheme and the opportunities available during Industrial Work Experience, below are my recommendations for a more effective scheme:

The University should provide more practical facilities so as to ensure that student have a fair practical knowledge of the profession before going on attachment.

Student should be assisted in getting attached to places where needed experience in their field of study can be obtained.

The industry-based supervisor should be contacted and encouraged to meet with the

industrial attachés so that there can be room for them to relate for intellectual development.

The departments in various schools should provide students with list of firms and places where experience relevant to the field of study can be obtained.

The school supervisors should keep contacts of industry-based supervisors during their visit to foster good relationship between the department and the firm. As this will go a long way in helping students with placements in the future.