**A TECHNICAL REPORT ON**

**STUDENT INDUSTRIALWORK EXPERIENCE SCHEME [S.I.W.E.S]**

**HELD AT**

**LOWER NIGER RIVER BASIN DEVELOPMENT AUTHORITY**

**(LNRBDA),ILORIN**

**HAMMED IBRAHIM BOLAJI**

**ND/23/AGT/PT/0187**

**DEPARTMENT OF AGRICULTURAL TECHNOLOGY**

**INSTITUTE OF APPLIED SCIENCE**

**KWARA STATE POLYTECHNIC, ILORIN**

**FROM**

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**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF ORDINARY NATIONAL DIPLOMA(OND) IN AGRICULTURAL TECHNOLOGY, KWARA STATE POLYTECHNIC**

## CERTIFICATION

This is to certify that **HAMMED IBRAHIM BOLAJI** with matriculation number **ND/23/AGT/PT/0187** undergoes her industrial training **SIWES** at **THE LOWER NIGER RIVER BASIN DEVELOPMENT AUTHORITY (LNRBDA) ILORIN KWARA STATE** In partial fulfillment of the award of National Diploma (**ND**) in Business administration, Kwara State Polytechnic, Ilorin, undersigned by the following people:

……..…… ……..……

**MR NURUDEEN ABUBAKAR GOBIR** **Date**

Department SIWES Supervisor

…….. …….

**MR BANJOKO** **Date**

Head Of Department

## DEDICATION

This SIWES report is dedicated to GOD Almighty, Mr.& Mrs. **HAMMED** for their spiritual and financial support during my SIWES program.

## ACKNOWLEDGEMENT

With overwhelming joy in my heart, I wish to thank the almighty God the fountain of all knowledge, my strength and my source, the great provider for his unconditional love and favor towards my life and throughout this academic pilgrimage. My immeasurable appreciation goes to my parents **Mr.** and **Mrs. HAMMED** for their parental care and the support they have given me since the day I have been given birth to and for the effort they have put in ensuring that I become someone great in life. My sincere appreciation so goes to the entire staff and management of The Lower Niger River Basin Development Authority (LNRBDA). My acknowledgement is incomplete without acknowledging my H.O.D, Mr. Banjoko for his firmness and tireless effort in making Agricultural Technology Department, the best. To all my lecturers, thank you for the grooming and shaping. God bless you all. Finally, only God is above all sort of mistakes. All errors in this work are strictly and exclusively mine.

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# CHAPTER ONE

# INTRODUCTION

## BACKGROUND

The Industrial Training fund established by decree 43 was introduced in 1971, vis-à-vis the birth of the Students Industrial Work Experience Scheme (SIWES) the same year by the Federal Government of Nigeria (FGN). It is against this background that the industrial training fund (ITF) initiated, designed and introduced SIWES Scheme in 1973 to acquaint students with the skills of handling employers' equipment and machinery. The Industrial Training Fund (ITF) solely funded the scheme during its formative years. However, due to financial constraints, the fund withdrew from the scheme in 1978. The Federal Government, noting the significance of the skills training, handed the management of the scheme to both the National Universities Commission (NUC), and the National Board for Technical Education (NBTE) in 1979. The management and implementation of the scheme was however, reverted to the ITF by the Federal Government in November, 1984 and the administration was effectively taken over by the industrial training fund in July 1985, with the funding solely boned by the Federal Government. It is an integral part of the requirements for the award of Certificates, Diplomas and Degrees in institutions of higher learning, e.g. Colleges of Education, Polytechnics, Universities, etc. Student Industrial Work Experience Scheme (SIWES) exposes students to industry based skills necessary for a smooth transition from the classroom to work environments. It accords students of tertiary institutions the opportunity of being familiarized, exposed, and prepare students of universities, polytechnics, college of technology, college of agricultures and college of education for the industrial work situation they are likely to meet after graduation and to the needed experience in handling machinery and equipment which are not found in such an educational institution.

## OBJECTIVES OF SIWES

- To provide students with relevant practical experience.
- To satisfy accreditation requirements set by the Nigerian Universities Commission (NUC).
- To familiarize students with typical environments in which they are likely to function professionally after graduation.
- To provide student an opportunity to see the real world of their discipline and consequently bridge the gap between the University work and actual practice.
- To change the orientation of students towards labour market when seeking for job.
- To help students access area of interest and suitability for their chosen profession.
- To enhance students, contact for future employment
- To provide access to equipment and other facilities that would not normally be available in the University workshop
- To enlist and enhance industry involvement in university education.
- Summarily the objective of the Student Industrial Work Experience Scheme.
- To solve, the problem of inadequate practical skills, preparatory for employment in industries by Nigerian graduates of tertiary institution.
- To promote and encourage the acquisition of skills in industry and commerce, with a view of generating a pool of indigenous trained manpower sufficient to meet the needs of the economy.

# CHAPTER TWO

# DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

## LOCATION AND BRIEF HISTORY OF ESTABLISHMENT

The Lower Niger River Basin Development Authority (LNRBDA) is one of the twelve (12) River Basin Development Authorities established by the Federal Government of Nigeria under Decree No. 25 of 1976, later amended by Decree No. 87 of 1979, with the mandate to develop and manage water resources for agricultural and rural development purposes across Nigeria. It operates under the supervision of the Federal Ministry of Water Resources and serves as an instrument for achieving food security, rural development, employment generation, and the enhancement of livelihoods through effective management of land and water resources.

The agency's headquarters is strategically located in Ilorin, Kwara State, serving as the coordinating center for all its operations across its jurisdiction. The Lower Niger River Basin covers parts of: Kwara State, Kogi State, Parts of Niger State and Some adjoining areas of Oyo and Ekiti States

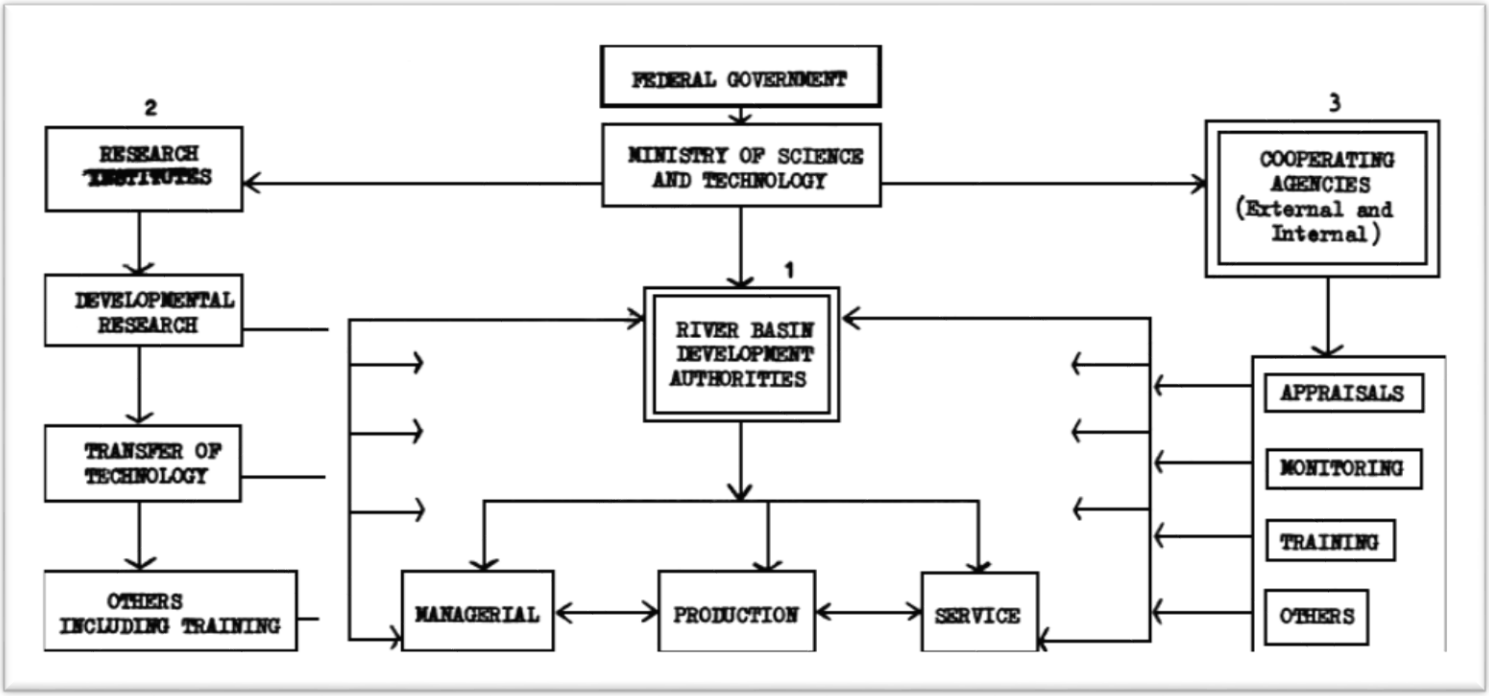
Ilorin serves as the command and control base of the authority, housing the central administrative, engineering, planning, agricultural, and finance units.

## OBJECTIVES OF THE ESTABLISHMENT

The primary objectives of the Lower Niger River Basin Development Authority include:

1. To develop and maintain dams, boreholes, and irrigation facilities.
2. To harness surface and underground water resources for agricultural, domestic, and industrial use.
3. To promote year-round farming through irrigation projects.
4. To increase food production by supporting mechanized and sustainable agriculture.
5. To implement flood and erosion control projects that protect lives, farmlands, and properties.
6. To construct access roads, provide rural water supply schemes, and support integrated rural development programs.
7. To preserve and manage the basin’s ecosystems through afforestation and sustainable resource utilization.
8. To conduct research and offer technical support and training to farmers and stakeholders on water management and agricultural practices.

**ORGANIZATIONAL STRUCTURE**




**THE DEPARTMENTS IN THE ESTABLISHMENTAND THEIR FUNCTIONS**

1. **Engineering Department:-** They are Responsible for planning, designing, supervising, and executing civil engineering works such as, Construction and maintenance of dams, irrigation canals, and boreholes, Installation of water pumps and earthworks, Monitoring quality control and safety standards on project sites and Conducting technical site visits and preparing engineering reports.
2. **Agricultural Services Department:-** This Department Provides support to farmers within the basin through Distribution of inputs (fertilizers, improved seeds, herbicides), Demonstration farms and modern agricultural practices, Extension services to educate farmers on irrigation and farming techniques, Supporting dry-season farming and greenhouse cultivation.
3. **Planning, Research & Statistics Department:-** Serves as the think-tank of the Authority bynPreparing annual and long-term development plans, Conducting surveys, research, and impact assessments, Monitoring and evaluating all ongoing and completed projects and Collating and analyzing statistical data for strategic decision-making.
4. **Finance & Accounts Department:-** Oversees all financial operations including:Preparation of annual budgets and fund allocation, Managing internal control for financial transactions, Maintaining accounting records and producing financial statements, Ensuring compliance with financial regulations from the Federal Government.
5. Administration & Human Resources Department**:-** Handles all administrative and personnel matters such as: Recruitment, posting, and promotions of staff, Staff training, development, and capacity

building, Managing leave records, welfare, and performance evaluations and Coordinating internal correspondence and filing systems.

6. **Internal Audit Department:-** Acts as an independent check within the Authority by, Auditing financial records and operations, Ensuring adherence to government financial guidelines and regulations, Detecting errors, fraud, or mismanagement and Preparing audit reports and recommending corrective actions.
7. **Procurement Department:-** Manages acquisition of goods, services, and works by, Coordinating tender and bidding processes, Preparing contract agreements and procurement plans and Ensuring transparency and due process in all procurement activities and Maintaining supplier and contractor databases.
8. **Legal Services Department:-** Provides legal counsel and representation, Drafts and reviews legal documents, contracts, and MoUs, Advises on legal matters relating to land acquisition and project implementation, Represents the Authority in court when necessary and Ensures compliance with statutory laws and government policies.
9. **Public Relations & Protocol Unit:-** Manages the public image and communications of the Authority by Issues press releases and organizes media briefings, Maintains relationships with stakeholders and host communities, Coordinates internal and external official visits and Oversees branding, signage, and event planning.
10. **ICT Unit Supports the Authority's operations through digital tools and systems**: Manages office computer systems and internet connectivity, Provides IT training and support to staff, Maintains websites, email systems, and data backups And Ensures cyber security and digital record keeping

# CHAPTER THREE

# INDUSTRIAL EXPERIENCE

During my internship at the Lower Niger River Basin Development Authority (LNRBDA), Ilorin, I participated in a well-structured industrial training program that significantly broadened my understanding of public sector operations, water resources management, agricultural services, and project planning. This hands-on experience provided me with the opportunity to integrate academic theories with real-world applications, effectively bridging the gap between classroom knowledge and field practices.

Throughout my time at the organization, I worked closely with experienced professionals across various departments, including Engineering, Agriculture, Planning, and Administration. These professionals offered continuous guidance and mentorship, enabling me to actively contribute to several departmental activities. In the Engineering Department, I was exposed to irrigation system design, site supervision, borehole maintenance, and the servicing of pumping equipment. These activities deepened my technical understanding of water infrastructure projects and improved my analytical and problem-solving abilities.

In the Agricultural Services Department, I supported the implementation of field demonstrations and farmer education programs. This role helped sharpen my communication skills as I interacted with farmers and field officers, explaining the benefits of modern irrigation techniques and assisting in the distribution of agricultural inputs. My involvement here improved my interpersonal abilities and gave me a clearer picture of how government interventions impact local farming communities.

The internship also offered valuable insights into planning and project evaluation processes. Within the Planning, Research & Statistics Department, I participated in the collection and analysis of field data, helped draft project reports, and observed feasibility study procedures. I learned how data-driven decision-making supports effective policy implementation and rural development strategies.

Moreover, brief rotations in the Administrative and ICT units allowed me to gain an understanding of organizational workflow, file management, internal communications, and computer system maintenance. These experiences contributed to my organizational and time management skills.

This internship not only enhanced my technical competence in areas such as irrigation, water supply systems, and agricultural planning, but it also offered a solid foundation in understanding the operational dynamics of a government agency. From managing community projects to understanding interdepartmental collaboration, I acquired practical lessons that will shape my future career in public service, environmental engineering, or rural development. The exposure also reinforced the importance of teamwork, discipline, and professional ethics in achieving organizational goals.

In summary, my SIWES training at LNRBDA was a transformative experience that merged academic insight with practical knowledge. It has inspired a renewed commitment to pursuing excellence in my chosen career path while contributing meaningfully to national development.

## KEY FEATURES OF LNRBDA

The Lower Niger River Basin Development Authority (LNRBDA), headquartered in Ilorin, Kwara State, is a prominent federal government agency under the Federal Ministry of Water Resources. It plays a vital role in water resource management, agricultural development, and rural transformation across parts of Kwara, Kogi,

Niger, and Ekiti States. During my industrial training at the Authority, I was privileged to experience firsthand the organizational structure, operational strategies, and developmental projects of the agency. The following are key features of the organization and the valuable lessons I learned from each:

- **FEDERAL GOVERNMENT AGENCY** :- One major feature of LNRBDA is its status as a Federal Government Agency**.** As a parastatal, it is mandated to implement national policies on water supply, irrigation development, flood control, and agricultural support services. Through this, I gained an understanding of how government agencies function within a broader policy framework. I also appreciated the level of responsibility involved in handling national development objectives and the importance of public accountability.
- **THE HEADQUARTER:-** The headquarters in Ilorin and the vast coverage area, which includes parts of Kwara, Kogi, Niger, and Ekiti States, highlight the strategic importance of the Authority. This wide coverage taught me the complexities involved in coordinating projects across multiple states, dealing with geographical and cultural differences, and ensuring equitable development across regions. It also exposed me to the importance of strategic planning and decentralization in service delivery.
- **ORGANIZATION'S MANDATE FOR INTEGRATED RURAL DEVELOPMENT**:-Another key feature is the organization's mandate for integrated rural development. LNRBDA is not limited to engineering or agriculture alone but combines both to address the multi-faceted needs of rural areas. I learned that sustainable rural development requires a multidisciplinary approach, involving water access, agricultural productivity, road infrastructure, and community engagement. This broadened my perspective on development and community empowerment.
- **ORGANIZATION STRUCTURE:-**The Authority is structured into multiple departments including Engineering, Agricultural Services, Planning, Finance, Administration, Procurement, Internal Audit, and ICT. This multi-departmental structure enabled me to rotate through different units and learn about their interdependent roles. For example, while the Engineering Department focuses on construction and maintenance of dams and boreholes, the Agricultural Services Department supports farmers through training and input distribution. I learned how collaboration across departments leads to successful project implementation.
- **PROJECT EXECUTION:**- The project execution and monitoring feature of the Authority is another remarkable aspect. LNRBDA undertakes the design, construction, and supervision of critical infrastructure such as dams, irrigation schemes, and water supply systems. I was able to visit project sites and witness technical operations in practice. This exposure sharpened my understanding of project planning, implementation, and the importance of regular monitoring to ensure efficiency and sustainability.
- **FARMER'S SUPPORT:**- The Authority's role in farmer support and empowerment stood out during my internship. By providing farmers with improved seedlings, fertilizers, and irrigation equipment, as well as organizing training programs, LNRBDA significantly boosts agricultural productivity in its coverage areas. From this, I learned the importance of government intervention in improving food security and how technology and innovation can transform traditional farming practices.
- **TECHNICAL EXPERTISE:-** One of the most enriching features was the technical expertise and diversity of staff within the organization. The Authority boasts professionals including engineers,

agriculturists, planners, and administrators. Interacting with these experts allowed me to acquire practical knowledge, understand ethical work culture, and appreciate the value of teamwork and continuous learning in the workplace.

- I also observed the Authority's collaboration with local communities and stakeholders. LNRBDA consults with communities, farmers, and contractors before and during project execution. This participatory approach taught me the value of inclusiveness and transparency in development planning. It also emphasized that for any project to succeed, community buy-in is crucial.

**EQUIPMENT AND TOOLS USED**

During the course of industrial training at the Lower Niger River Basin Development Authority (LNRBDA), Ilorin, particularly in the **Agriculture Department**, several tools and equipment were used to perform various tasks efficiently. These tools facilitated agricultural extension services, crop management, land development, and water resource management. The major equipment and tools used include:-

1. **Watering Can**:- A watering can is a simple handheld container used to manually water plants, especially in nurseries and demonstration farms.

2. **Farm Boot:-** Used occasionally when installing signage or providing services in muddy or unpaved areas near the office.

3. **Sprayer farm tool:-** is typically used for applying pesticides, herbicides, fungicides, and liquid fertilizers on crops.

4. **Farm hoe:-** is a traditional agricultural tool used for various tasks in land preparation, cultivation, and crop maintenance

5. **Farm shovel:-** is an essential agricultural tool used for digging, lifting, and moving soil, compost, and other materials.

**DUTIES PERFORMED IN THE ORGANIZATION**

During my Student Industrial Work Experience Scheme (SIWES) at LNRBDA, I was actively involved in various activities and daily operations. My responsibilities included:

- I was responsible for feeding the layers with layer.l. mash chicken feed and water containing vitamin extract oral to vaccinate the layer.
- Cleaning of the pen and packing of egg
- I did maintenance of farm yard and spray chemical on it using the automatic sprayer.
- I participated in harvest of the dry maize.
- I participated in the planting of potatoes.
- I participated in the wetting of vegetables.
- I also participated in the breeding feeding tods.
- I also involved in making of vegetable bed for planting of corhous oil torious.

**SKILLS ACQUIRED DURING THE TRAINING**

During the course of my industrial training, I was exposed to various practical and administrative activities that significantly improved my knowledge and abilities. The training provided me with hands-on experience and an opportunity to apply theoretical concepts in a real-world setting. The following are the major skills I acquired:

- I learned how to operate basic farm tools such as hoes, cutlasses, watering cans, and sprayers.

- I gained experience in planting, weeding, harvesting, and applying fertilizers and pesticides.
- I was trained on soil preparation techniques and land management practices suitable for various crops.
- I understood the fundamentals of irrigation systems, especially surface and sprinkler irrigation.
- I assisted in monitoring water distribution, ensuring efficient water usage on farm plots.
- Working closely with agricultural officers and other interns helped me develop interpersonal skills.
- I learned to collaborate effectively in group tasks such as land clearing, planting, and data recording.
- I was involved in taking field measurements, recording crop growth data, and compiling daily reports.
- I became familiar with agricultural documentation and reporting formats used by professionals.
- The training instilled in me a deeper understanding of sustainable farming practices.
- I developed better verbal communication through regular interaction with supervisors, staff, and farmers.
- I also improved my written communication by preparing daily activity logs and weekly summaries.
- The structured daily routines taught me the value of punctuality, commitment, and discipline.
- I learned how to prioritize tasks and manage time effectively to complete multiple assignments.

## CHAPTER FOUR

## CHALLENGES AND PROBLEM ENCOUNTERED

During my industrial training at the Agriculture Department of the Lower Niger River Basin Development Authority, Ilorin, I encountered several challenges that shaped my overall experience. While the training was insightful and beneficial, it was not without difficulties that tested my adaptability and resilience.

One of the major challenges I faced was the limited availability of practical equipment. There were instances where farm tools such as hoes, sprayers, and watering cans were not sufficient for the number of interns present. This scarcity often led to delays in completing assigned tasks and reduced opportunities for hands-on practice. As a result, we had to take turns or sometimes only observe, which hindered our full engagement.

Additionally, harsh weather conditions posed a significant challenge. Working under the scorching sun or during unexpected rainfall made it difficult to maintain consistent productivity. There were days when activities had to be postponed due to unfavorable weather, which disrupted our learning schedule. Coupled with this, the physical nature of the agricultural tasks, such as digging, weeding, and carrying materials, often resulted in fatigue and body pains, especially during the early weeks of the training.

Communication barriers also surfaced during my training. There were times when instructions from field supervisors were not clearly communicated, leading to misunderstandings and errors during farm operations. This was further compounded by the use of local terms or technical language that some interns were unfamiliar with.

Another major issue was the limited access to agricultural machinery. While the authority possessed several machines for farming activities, interns were not frequently allowed to operate or observe their use, often due to safety policies or time constraints. This limitation reduced our exposure to mechanized farming, which is an important aspect of modern agriculture.

Transportation challenges were also encountered, especially when traveling to project sites within or outside Ilorin. On some days, there were no official vehicles available for interns, forcing us to find alternative means of transportation. This sometimes led to late arrivals or missed early morning exercises, affecting the day’s productivity.

Despite these challenges, I was able to adapt and learn valuable lessons in patience, teamwork, and problem-solving. These experiences, though difficult, helped me develop a deeper appreciation for the practical realities of agriculture and prepared me for future responsibilities in the field.

# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## SUMMARY

The Student Industrial Work Experience Scheme (SIWES) provided me with a unique opportunity to gain practical knowledge and firsthand experience in agricultural practices. During my attachment at the Lower Niger River Basin Development Authority, Ilorin, I was assigned primarily to the Agriculture Department, where I engaged in various activities related to crop cultivation, soil management, irrigation, and environmental conservation. The training enabled me to understand the application of theoretical concepts in a real-world setting. I worked closely with experienced staff members, participated in team projects, and learned the use of farm tools and basic field techniques. It also exposed me to the operational structure of a government-based agricultural agency.

## CONCLUSION

In conclusion, my industrial training experience was impactful and transformative. It broadened my perspective on the practical aspects of agriculture and improved my technical, communication, and teamwork skills. The challenges I encountered during the training made me more resilient and prepared for future career demands. I was able to bridge the gap between classroom theory and field practice, which has strengthened my passion and understanding of the agricultural sector in Nigeria. The experience also gave me insights into the importance of sustainable farming and how government agencies contribute to food production and rural development.

## RECOMMENDATIONS

Based on my experience, I would like to recommend the following:

1. **Provision of Adequate Tools and Equipment**:- The management should ensure the availability of sufficient farm tools and protective gear to improve the hands-on experience for interns.
2. **Access to Machinery Demonstrations**:- Interns should be given opportunities to observe and, where safe, participate in the use of agricultural machinery to understand mechanized farming processes.
3. **Improved Communication and Supervision**:- Clear instructions and close supervision should be provided to interns to ensure better understanding and task execution.
4. **Orientation Program for Interns**:- An introductory session should be held at the beginning of the program to familiarize interns with the organization’s goals, safety protocols, and expectations.
5. **Intern Allowance or Support**:- If possible, a transportation stipend or basic allowance should be considered to support students coming from distant locations.