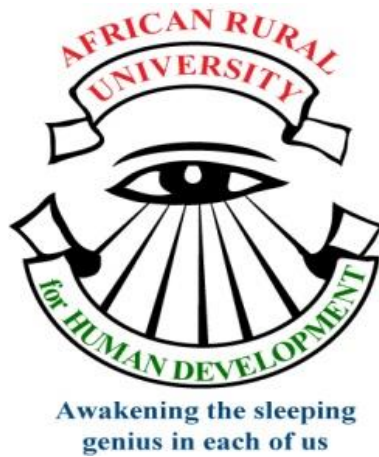




Faculty of Technologies for Rural Transformation

A Report on Field Attachment One

Conducted at Miika Estates Company Limited

Kikonoka Village, Kitoba Sub-County

Hoima District

Tusabe Betty

Reg No. 23/ARU/BSSA/005

Field Mentor: Mrs. Esther Banage

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A One Month Field Attachment Report Submitted to the Faculty of Technologies for Rural Transformation in Partial Fulfilment for the Award of a Bachelor's Degree of Science in Sustainable Agriculture of African Rural University

July, 2025

DECLARATION

I Tusabe Betty declare that the information in the field attachment one report is entirely created by me, it has not been previously submitted anywhere for any academic recognition or any other purpose.

The content is the product of my personal efforts and distinct contributions at the farm.

Signature:



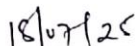
Tusabe Betty

Date: 18th July, 2025

APPROVAL

This is to certify that, this one- month field attachment report by Tusabe Betty was carried out at Miika Estates Company Limited in Hoima District under supervision and is now presented for marking with my approval to the Faculty of Technologies for Rural Transformation of African Rural University.

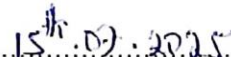
Signature 

Date 

Mr. Mwanika Byamukama

Faculty Supervisor

Signature 

Date 

Ms. Esther Banage

Field Supervisor

DEDICATION

I dedicate this field attachment one report to my parents, Mr. Asaba Godfrey and Ms. Kabonesa Gorret, my sisters, Aunt Busobozi Betty and my uncle for the love and care rendered to me during this field attachment. Special dedication to African Rural University management, my faculty supervisor and the management of Miika Estates Company Limited and the community of Kikonoka Village who supported me during the one- month field attachment. I also dedicate this work to my mentors and supervisors, whose guidance has greatly contributed to my personal and professional growth during this field attachment.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to all those who supported me during my field attachment. Special thanks go to my field supervisor and the entire team at ARU for their guidance, encouragement, and practical support throughout the training period. I am also thankful to my academic supervisor and the staff of Miika Estates Company Limited for their continued mentorship. Lastly, I appreciate my family and friends for their unwavering support.

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LIST OF ABBREVIATIONS

ARU	African Rural University
BSSA	Bachelor of Science in Sustainable Agriculture
CAP	Participatory Action Planning
Kgs	Kilograms
NARO	National Agricultural Research Organizations
MAIF	Ministry of Agriculture Animal Industry and Fisheries
MEREHO	Miika Eco Resort Hotel
ML	Mili liters
LC	Local Council

ABSTRACT

This report presents a comprehensive account of the one-month field attachment undertaken at Miika Estates Farm in Hoima District from 5th June, 2025 to 4th July, 2025. The attachment aimed to provide practical experience in diverse agricultural disciplines and expose the intern to sustainable farming practices. Key areas of focus included crop production, animal husbandry, agroforestry, biodiversity conservation, and post-harvest handling. Activities involved banana and coffee cultivation, pasture and vegetable management, sack gardening, and the application of eco-friendly irrigation and weed control methods. The intern also engaged in silage and hay making, tree nursery bed management, and sustainable pest and disease control techniques. In animal production, the intern participated in piggery management including castration, deworming, and feed formulation, sheep rearing practices such as spraying, grazing management, and house sanitation, and rabbit farming. Skills in apiculture, biodiversity conservation, and post-harvest handling for example sorting, moisture testing, and packaging were also acquired. The field attachment enhanced the intern's technical competencies, practical knowledge, and appreciation of integrated and sustainable agriculture.

However, the short duration of the attachment and limited access to relevant information were significant challenges. To enhance learning outcomes, it is recommended that the duration of field attachments be extended to provide students with more comprehensive and hands-on experience.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter explains the background of ARU, field attachment, objectives of the field attachment and the background of Miika Estates Company Limited.

1.1 Background of Field Attachment.

Field Attachment is done to fulfill the 40% practical and preparation of students for real life, at the end of the second semester of second and third year, students who successfully complete their four and six semesters are sent to the field where they are introduced to the various farms to acquire more practical skills in the modern technologies, extension work and farm management skills.

1.2 Objectives of Field Attachment.

1. To develop skills in the application of theory to practical work situations
2. To test the student's aptitude for a particular career before permanent commitments are made.
3. To develop skills and techniques directly applicable to their careers.
4. To enable students acquire good work habits.
5. To enable the students a systematic needs assessment of a farm and identify real life problems in the local farming communities.

1.2.1 Specific objectives

1. To acquire practical knowledge and hands-on experience in sustainable crop production
2. To learn about animal health management practices
3. To develop skills in community engagement

1.3 Background of Miika Farm

Miika Estates is a rural agricultural enterprise nestled in Kikonoka Village, Kitoba Sub County, Hoima District and Mid-Western Uganda. It was founded and is led by Dr. Fred Kabagambe Kaliisa formerly Permanent Secretary at the Ministry of Energy and Mineral Development and now a presidential advisor who transitioned into agribusiness as part of his semi-retirement vision. Miika Farm deals in tree planting, agriculture, agro processing businesses for example seed processing and multiplication. Mr. Kabagambe Kaliisa is the Chairman of Albertine Purified Drinking Water Company, Miika Albertine Seeds Factory which was launched before the COVID-19 in the early 2020 and Miika Eco Resort Hotel (MEREHO) based in Hoima in

the Albertine Graben Area. Miika Estates Company Limited operates on approximately 123 acres of land.

1.3.1 Vision

A sustainable agroforestry and real estate enterprise in the Albertine region, promoting environmental conservation and empowering smallholder farmers through innovative and sustainable practices.

1.3.2 Mission

To deliver high-quality, reliable, and affordable real estate services, contributing to the growth and development of the Ugandan real estate sector. They aim to achieve this by focusing on customer satisfaction, ethical practices, and sustainable development

1.3.3. Core activities of the farm

Eucalyptus wood lot. Miika Estates began with extensive eucalyptus planting on its land. These trees provided both building materials and a foundation for the estate's infrastructure and estate development. The estate spans multiple acres

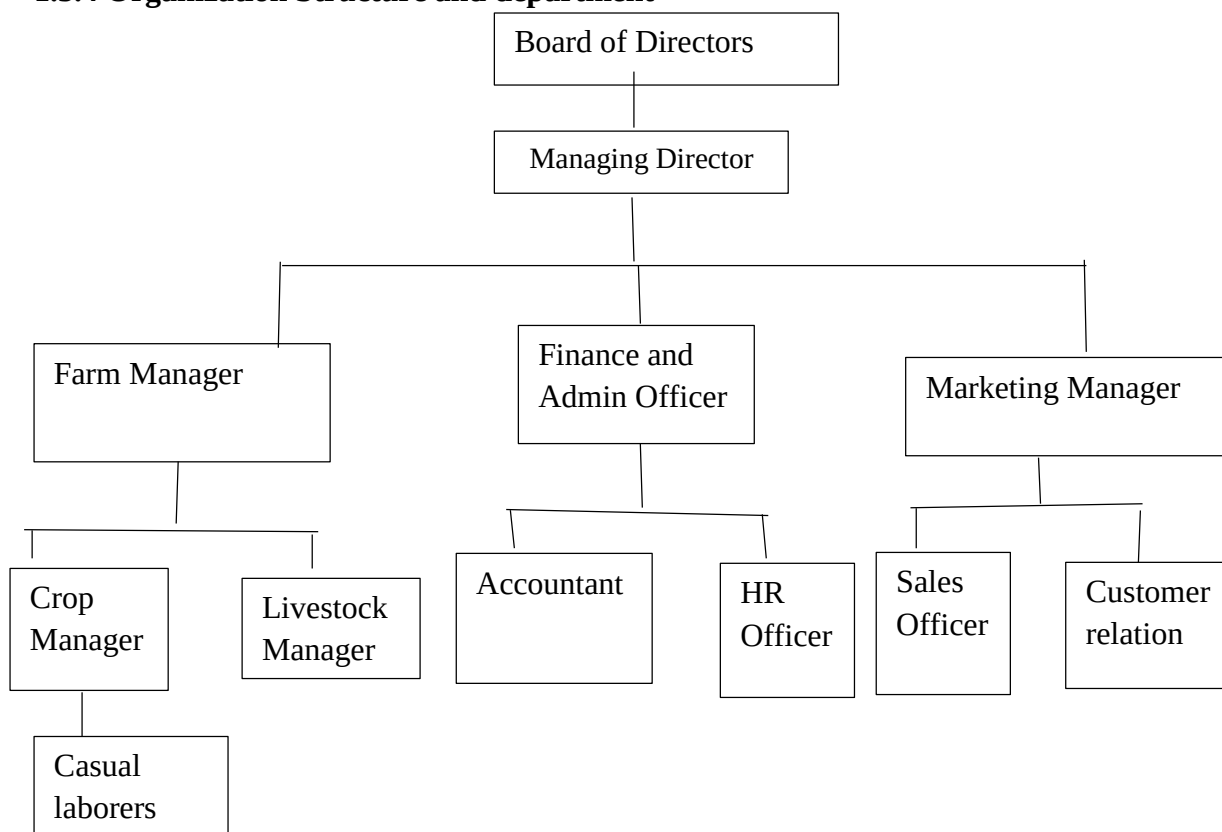
Seed processing and multiplication. Miika Estates operates a hybrid seed business in collaboration with Uganda's National Agricultural Research Organisation, supplying improved seeds to local farmers currently it works with over 120 clients. They conduct germination testing in an on-site laboratory.

Water processing, the major component of the enterprise is the Albertine-branded purified water plant. It uses a modern bottling line from blowing bottles to sealing and labeling and produces about 2,000–3,000 cartons of water daily. The plant employs at least 40 local workers

Livestock management, mainly cattle, piggery, sheep, goats and rabbits

Biodiversity conservation, preservation of natural vegetation and support of indigenous species. Management of on-farm forests and natural water sources

1.3.4 Organization Structure and department



1.4. Roles of Miika Estates Farm

Acts as a learning center that provide practical skill to the students that helps them improve their career

Provide the apprentice with accommodation and food

1.5. Roles of the Student.

Learn practical skills in crop cultivation and animal husbandly

Apply theoretical knowledge in the real life farming situations

Suggest improvements and apply modern farming techniques learned in lectures

Collaborate with the supervisors and the farm staff to accomplish the farm activities

1.6. Roles of the University

Assess students' performance through reports and presentations

Orient the apprentice and the mentors on field attachment

To supervise the apprentice

CHAPTER TWO: PRESENTATION OF ACTIVITIES

2.0 Introduction

This chapter presents the summary of activities and experiences gained during my field attachment at Miika Estates Farm. It presents the activities that were done by the apprentice during the one month field attachment in sections of banana cultivation, coffee cultivation, bean production, vegetable growing, drip irrigation, sack gardening, apple management, pest and weed management, biodiversity conservation, waste management, piggery production, sheep production, rabbit management, poultry management, apiculture, pasture management and community engagement.

2.1 Activities in Sustainable Crop Production

2.1.1 Banana cultivation

The farm has four banana plantations all on one acre of land. The varieties include; mutule, kibuzi, mpologoma, embwazilume, bogoya and musa ssp. The following activities were done under banana cultivation.

2.1.1.1 Fertilizer application on banana plantations

NPK (Winner) fertilizer was applied on bananas to improve the soil fertility and increase fruiting. It's a blend of 15:15:17 of Nitrogen: Phosphorus: Potassium, applied at a distance of 3 feet from the plant to prevent scorching of plant roots.



Figure 1. Applying Winner Fertilizer on the Banana

2.1.1.2. Pruning of bananas

Pruning was also done to reduce shading and pest and disease spread, increase bunching, allow air circulation and ease harvesting among others.



Figure 2. Pruning Banana

2.1.1.3 Mulching of banana plantation

Mulching of banana using dry grass was also done to maintain soil moisture, improving on the soil structure and reduce on the weeds in the plantation. Two feet were left from the plant so as to reduce on pest infestation.



Figure 3. Mulching of the banana plantation

2.1.1.4. Desuckering

Desuckering is the removal of excess suckers from the stool. Where the mother plant, the daughter and the granddaughter are left to grow. This was done to ensure proper fruiting since there is low competition and also promote big and improved bunches.



Figure 4. Desuckering of Bananas

2.1.1.5. Staking of bananas

This was done using a pole measuring 2 to 3 meters. This helps to provide support to the big bunches and protect the banana fruits from premature drop off from the plant during the windy conditions.



Figure 5. Staking Banana

2.1.2 Coffee cultivation.

2.1.2.1 Application of fertilizers to coffee seedlings

Bela, a granular fertilizer formulated with a ratio of 15:15:15 (NPK), which supports healthy vegetative growth, strong root development, and improved flowering in coffee was applied on young coffee plants using the ring placement method to ensure efficient nutrient uptake.

For each young coffee plant, 50 grams of Bela were applied by carefully measuring the amount to avoid over- or under-fertilization. The fertilizer was placed in a shallow circular trench made about 5 inches approximately 12 cm away from the base of the plant. This method allows nutrients to be absorbed effectively while preventing root scorching.



Figure 6. Applying Yara Bela on Coffee

2.1.3 Bean production

NARO Bean 2 is common improved variety of bush beans (*Phaseolus vulgaris*) known for its early maturity, resistance to certain pests, and suitability for intercropping.

NARO Bean 2 typically matures in 60–75 days after planting, depending on environmental conditions such as rainfall, soil fertility, and altitude. The recommended spacing for NARO Bean 2 inter-row spacing 50 cm and Intra-row spacing (between plants): 10–15 cm.

2.1.3.1 Weeding of NARO bean 2

Weeding of beans allows for proper plant development, air circulation, reduces rotting of mature beans and ease in management activities such as harvesting.



Figure 7. Weeding of Beans

2.1.3.2 Sorting of NARO Bean 1

Beans were manually sorted to remove damaged or broken seeds, stones and soil particles and discolored or moldy seeds. Ensured only clean, uniform, and market-grade beans were selected for storage or sale since the seeds were only of high-quality beans and learned the importance of post-harvest handling in improving product quality and market value



Figure 8. Sorting of Beans

2.1.3.3 Moisture Content Testing

A digital grain moisture meter to determine the moisture level of the beans before packaging. Beans were considered safe for storage with a moisture content of 13% to reduce risks of mold development, discoloration, and loss of germination viability.



Figure 9. Testing the Moisture Content of NARO Bean 1

2.1.4 Maize Production

2.1.4.1 Packaging of Longe 5 Maize

Packing the maize into standard-sized storage sacks. The sacks were labeled with important information such as the variety and net weight. Proper stacking and ventilation were also observed in the storage area.



Figure 10. Packaging Maize

2.1.5 Sack Gardening

Establishing and managing sack gardens as an efficient urban gardening technique. Materials used soil, compost, and gravel to grow vegetables for example spinach and sukuma wiki, lettuce and cucumber in sacks. This method is ideal for limited space farming and household nutrition.

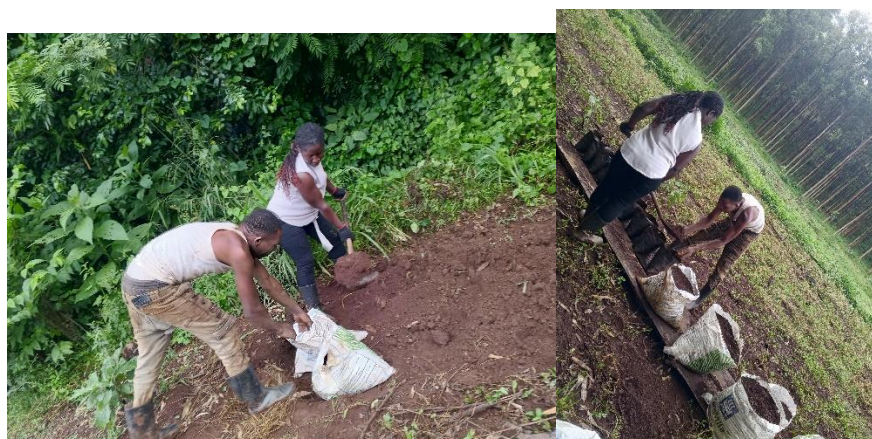


Figure 11. Making Sack Gardens

2.1.6 Drip Irrigation using Bottles

Simple, cost effective drip irrigation by reusing plastic water bottles. Bottles are filled with water and placed upside-down near plant roots to slowly release water. This method helps conserve water and ensures steady moisture supply since there is efficient water supply.



Figure 12. Practicing Drip Irrigation

2.1.7 Tree Nursery Bed Management

Tree Nursery Bed Management involves a series of coordinated activities aimed at raising healthy and vigorous seedlings for agroforestry, reforestation, and farm woodlot establishment. Tree nurseries are critical in promoting sustainable land management, restoring degraded landscapes, and enhancing biodiversity.

2.1.7.1 Seed Potting

Planted pine seeds in pots where they were first thoroughly dried, and soaked in water for 24 hours and then planted on surface of the soil in the pot, potting of the soil where we used well-tilled, fine soil mixed with compost for improved nutrient content and aeration.



Figure 13. Potting of Pine

2.1.7.2 Watering the Nursery Bed

Regular watering was done, preferably early in the morning or late in the evening, to maintain consistent soil moisture without causing waterlogging. Watering frequency was adjusted depending on weather conditions. Also leveling of the seed bed was done, pest and disease management by regular monitoring of seedlings for signs of common pests such as aphids and cutworms and diseases like damping-off. Control methods included manual removal, use of ash, promoting organic practices.



Figure 14. Watering of the Tree Nursery

2.1.8. Vegetable Growing

2.1.8.1 Weeding of Lettuce (*Lactuca sativa*)

Weeding of lettuce, as an essential activity in vegetable production. Lettuce is a leafy vegetable highly sensitive to weed competition, especially during the early stages of growth. Weeding was done manually using hand tools and by hand-pulling to avoid disturbing the shallow roots. Spacing of lettuce was planted at a spacing of 30 cm between rows and 25 cm between plants within the row. This spacing ensures adequate air circulation, light penetration, and ease of weeding and harvesting. Planting depth of lettuce seeds were sown at a shallow depth of about 1 cm since they are small seeds that require light to germinate effectively. Deep planting can hinder germination.



Figure 15. Weeding Lettuce

2.1.8.2 Weed management

Management of the invasive weed Wandering Jew (*Tradescantia spp.*) through burying. This method involves collecting and burying the weed in deep pits to block sunlight and prevent regrowth. The process aimed at suppressing its rapid spread, especially in shaded, moist areas where it thrives. Whereby burying helps decompose the weed naturally without the use of chemicals, making it an eco-friendly and effective control method when done properly.



Figure 16. Controlling Weeds by Burying

2.1.8.3. Pest Management in Sukuma Wiki

Management of pest infestations, particularly moth caterpillars, in Sukuma wiki (collard greens). This was done through the application of Dimothoate insecticide using a 20-liter knapsack sprayer. The recommended dosage of 30 milliliters of Dimothoate per 20 liters of water was used, ensuring effective pest control while minimizing risks to the environment and human health. The proper safety precautions, including the use of personal protective equipment (PPE), and adhered to good agricultural practices. This activity strengthened my knowledge of safe pesticide handling, dosage calibration, and integrated pest management (IPM) strategies in vegetable production.



Figure 17. Pest Management

2.1.9. Apple Management

2.1.9.1 Pruning and Training of Apple Trees

Pruning involved the removal of dead, diseased, or unproductive branches from apple trees. The importance of this practice in promoting healthy tree growth, improving light penetration, and enhancing air circulation within the canopy. Pruning also helps to shape the tree for easier harvesting and reduces the risk of pests and diseases. Training young apple branches. This involves guiding the direction of growth by tying branches using strings. Training is vital for achieving a desirable tree structure, improving fruit exposure to sunlight, and encouraging balanced growth, which leads to better fruit quality and higher yields.



Figure 18. Pruning Apples

2.1.10. Tree species identification

The tree species in the plantations. Miika forest consists of the eucalyptus (grandis South Africa and Theodora), umbrella trees and the natural trees for example the fig trees



Figure 19. Tree Specie Identification in Miika Estates Forests

2.1.11 Biodiversity Conservation

Biodiversity for example the forest supports ecosystem where it acts as a habitat for wild life such as the monkeys, carabus, chimpanzees since there is food and water from Nyakabingo waterfall that supports there life this has promote eco- tourism in the area. Also Miika eucalyptus plantation contains grass which is fed on by the sheep at the farm.



Figure 20. Biodiversity Conservation

2.2 Sustainable Animal Production practices

2.2.1. Piggery production

2.2.1.1 Castration of Pigs

The farm has 73 pigs of the Comrand breed. Open castration of young male piglets was done to reduce aggressive behavior and improve meat quality. This was done under hygienic conditions using proper equipment, and the wounds were treated with iodine, penicillin to reduce pain, methrated spirit and aleovera to avoid infections. Where 10 pigs were castrated



Figure 21. Castrating Piglets

2.2.1.2. Deworming pigs

Pigs at different ages were dewormed to control internal parasites that affect growth and productivity. Oral dewormers were administered like bimectin, where the pigs that weigh over 40 kgs were given 5ml, 2ml for 3 months.

Administering of drugs to the pigs using iron to provide energy to the piglets and Ivermectin to improve on the skin since they had rough body and stairly hair.

Table 1. Drugs and methods used in administering drugs to the pigs

Drug Name	Purpose	Type of Injection
Ivermectin	Deworming and external parasite control	Subcutaneous (under the skin)
Penicillin	Treatment of bacterial infections	Intramuscular (into the muscle)
Iodine	Used as a disinfectant on wounds	Topical (applied on skin)
Intermectin	Control of internal and external parasites	Subcutaneous



Figure 22. Deworming Pigs



Figure 23. Administering Vaccines to the Pigs

2.2.1.3 Cleaning of the pig sty

Regular cleaning of pig sty was done to ensure proper hygiene and reduce the risk of disease. This involved removing waste, scrubbing the floors. This practice also improves pig welfare, feed efficiency, prevent fry breeding and bad odor in the pig sty.



Figure 24. Cleaning the Pig Sty

2.2.1.4 Feed formulation.

The ingredients were accurately weighed and mixed to create a balanced ration suitable for pig growth and development. The feed formulation used at the farm included: 100 kg of maize bran which is a good source of energy and fiber. It improves digestion and helps pigs maintain gut health, 100 kg of broken maize which provides readily available carbohydrates, which are essential for energy and rapid weight gain, especially in growing pigs. 50 kg of Devenish Concentrate. This is a commercial premix rich in proteins, vitamins, and minerals. It promotes fast growth, improves immunity, and enhances reproductive performance. 0.5 kg of Salt to provides essential minerals like sodium and chloride. It helps in maintaining fluid balance, improving appetite, and overall feed intake.



Figure 25. Pig feed formulation

2.2.2 Sheep Management

2.2.2.1 Grazing sheep

At Miika Estates Farm, is currently owning 150 sheep.

Sheep were rotated across different tree plantations to allow pasture regeneration and reduce parasite load. Ensured the animals were grazed during cooler parts of the day and had access to clean drinking water that is in the morning and evening. This ensures sustainable pasture use, improves forage quality, and minimizes gastrointestinal parasite infestation.



Figure 26. Grazing Sheep

2.2.2.2. Spraying with Duo Dip

Sprayed the flock with Duo Dip, an acaricide used to kill external parasites such as ticks, lice, and fleas. Where 150 ml of duo dip were measured in 20L knapsack sprayer. Parasite control reduces skin irritation, weight loss, and anemia. It also prevents tick-borne diseases such as anaplasmosis and heart water.



Figure 27. Spraying Sheep with Duo Dip

2.2.2.3. Deworming New Stock with Albenol

Newly introduced sheep were treated with Albenol (Albendazole) to control both internal and external parasites before mixing with the main flock. 11 sheep were introduced and they included 4 males and 7 females. This is a critical quarantine practice that prevents introduction of infections and parasites into the farm flock.

2.2.2.4. Cleaning of the Sheep House

Cleaning of the sheep shelter by removing manure and spraying with disinfectant. Clean housing reduces the risk of foot rot, respiratory infections, and fly infestations. Good sanitation supports better feed intake and productivity. The dung is packed to be used as manure in the vegetables to increase production



Figure 28. Maintaining Sanitation in the Sheep House

2.2.3 Rabbit Rearing

Miika Estates Farm has 70 rabbits of which 50 are male and 30 are females. They rear exotic breeds which is New Zealand White. The doe start giving birth at 3 months. They are reared in cages to protect them from harsh weather conditions like rain and sunshine predators like the dogs, cats and pigs. Each cage contains two to three rabbits with a feed and water trough.

2.2.3.1 Feeding of the Rabbits

Rabbits were fed on water, maize bran, wilted spinach and sukuma wiki where the water content is low to prevent diarrhea and swelling of the stomach. The common disease they suffer are coccidiosis and myxomatosis due to mosquitoes, fleas and direct contact.



Figure 29. Feeding Rabbits on Maize Bran

2.2.3.2 Renovation of the rabbit house

By filling the gaps within the cages to prevent them from moving out. This is also done to prevent the rabbits from predators like the cats, dogs among others



Figure 30. Renovating the Rabbit House

2.2.3.3 Regular Cleaning of the Rabbit House

Regular cleaning of the rabbit cages where the dung is collected and used as manure for proper waste disposal. Cleaning also helps to prevent parasites and disease outbreak and irritation of the rabbit house.



Figure 31. Cleaning the Rabbit Structure

2.2.4. Poultry management

Where it layers kroilers and they are 50 in number.

2.2.4.1 Feeding of poultry

Where they are feed on silver fish, maize bran, and soya bean meal. Sometimes the birds are left to move around to look for food. The birds were provided with enough feeders and drinkers

in the poultry house to ease access of birds to food and water to reduce competition and other poultry vices



Figure 32. Providing Water to the Chicken

2.2.5. Honey Harvesting (Apiculture)

A range of apiculture practices aimed at promoting healthy and productive bee colonies. This included routine inspection of beehives to monitor bee activity, identify pests or diseases, and assess honey readiness. Used the available protective gear to ensure safety during hive operations and participated in the careful collection and extraction of honey using hygienic techniques. The importance of bees in pollination, biodiversity, and their contribution to sustainable livelihoods through honey production and related products.



Figure 33.Honey Harvesting

2.2.6. Water Management

The wasted water from Albertine Water Factory and Nyakabingo Waterfall is supplied to the plantations for example the trees, banana, coffee, apples among others which prevents wastage

of water. This ensures efficient water supply to the crops to increase sustainable crop production.



Figure 34. Removing Grass using a Matchet from the Trenches for Proper Water Flow in the Banana Plantation

2.2.7. Waste management

At Miika Estates Farm, wastes were managed through a combination of recycling, composting, and eco-friendly disposal practices. Organic waste such as crop residues, and livestock droppings is composted into organic manure, which is then applied to the farm's gardens to enrich the soil naturally. Animal waste, particularly from goats and sheep, is also used as fertilizer, promoting sustainable and integrated farming. Waste generated from agro-processing activities, such as maize husks and bean chaff, is either reused or properly disposed of, while plastic waste from the water bottling plant is sorted and sent to recycling agencies. The farm maintains clean and hygienic surroundings, by using waste bins and ensuring regular waste collection. These waste management practices not only support environmental conservation but also contribute to cost-effective and productive farm operations.



Figure 35. Maintaining Hygiene through Waste Management

2.2.7 Pasture Management

2.2.7.1 Harvesting of *Chloris gayana*

Harvesting of *Chloris gayana*, commonly known as Rhodes grass. This is a perennial tropical forage grass widely used in livestock farming due to its high palatability, fast growth, and excellent nutritional value. Rich in crude protein up to 12–14% when harvested at early stages. It was harvested before flowering to reduce nutrient loss.



Figure 36. Harvesting Pastures

2.2.7.2 Weeding of Alfalfa (*Medicago sativa*)

The manual weeding of alfalfa plots. Alfalfa is a high-value, perennial forage legume known for its rich protein content, excellent digestibility, and suitability for hay and silage. It is especially favored by dairy farmers due to its role in increasing milk production and animal weight gain. Its crude protein content ranges between 15% and 20% when harvested at early bloom stage. Weeding was done to reduce competition and pest attacks in the field.



Figure 37. Weeding Alfalfa

2.2.7.3 Silage Making

Silage making is an important technique used to preserve green fodder for livestock during dry seasons when pasture is scarce. Silage provides a nutritious and energy-rich feed that supports milk production, weight maintenance, and overall animal health. Process involved in silage making are; Harvesting high-moisture forage crops such as *Chloris gayana*, the harvested material was chopped into smaller pieces to improve compaction and promote uniform fermentation. The chopped fodder was packed tightly into polythene-lined pits, minimizing air pockets. This anaerobic environment is vital for the growth of lactic acid bacteria, which ferment the fodder and lower its pH. The silage was sealed tightly using polythene sheets to prevent air entry and spoilage.



Figure 38. Making Silage

2.2.7.4 Baling of Hay

The process of hay making and baling, an essential activity in forage conservation. Hay is dry fodder made by cutting and drying grasses or legumes for animal feed during feed-scarce

periods. Process of Hay Baling. Harvested mature nappier grass just before flowering, when it still had high nutrient content. The grass was spread thinly on the ground and turned regularly for even drying. Proper drying reduces the moisture content to about 15–18% to prevent mold and spoilage. We tested dryness manually by twisting the stems there by they should crack rather than bend when dry. The hay was gathered and compacted into bales using a manual hay baler. Bales were tied using sisal ropes to keep them in shape and then the bales were stored in a well-ventilated shade raised from the ground on wooden pallets to prevent dampness.



Figure 39. Baling Hay

2.3. Community Engagement

2.3.1. Conducting Community Action Planning (CAP)

Community Action Planning (CAP) is a participatory process that enables community members to come together, envision their ideal future, and identify practical steps to achieve it. This approach focuses on people's aspirations, strengths, and shared goals, rather than just their problems or needs. This was organized on the 21st June, 2025 by the Chairman LC1 of Kikonoka Village and the EM of Hoima District Mrs. Namubiru Grace

Conducting CAP was one of the key activities during my field attachment at Miika Estates Farm. The main objective of the CAP session was to understand the community's aspirations through participatory engagement. By facilitating discussions with local farmers and stakeholders, we were able to gather valuable insights into their needs and development goals. This process played a vital role in guiding the formulation of a relevant and community-based research topic. Participating in CAP enhanced my skills in community mobilization,

participatory data collection, and analysis, while also giving me a deeper appreciation for inclusive planning in agricultural development. Where we came up with the research topic as: **“Assessing the role of cooperatives in enhancing farm productivity in Bulyango Village Kitoba Sub County”**



Figure 40. Conducting CAP

2.3.2. Introduction of the Visionary Approach at the farm

Introducing the visionary approach to the farm workers and the farm manager where the gaps within the farm were identified which drove us to our actions that are supposed to taken so as to achieve our farm vision



Figure 41. Introducing the Visionary Approach at Miika Estates Farm

In conclusion, the field attachment strengthened my practical skills and reinforced classroom knowledge. Gained experience in sustainable crop production, including land preparation, planting, weeding, and pest control. Improved my understanding of animal health through

exposure to disease management and livestock care. Additionally, Learned essential post-harvest handling practices and enhanced my communication and extension skills through community engagement. Overall, the experience advanced my professional competence in agriculture.

CHAPTER THREE: ANALYSIS AND EVALUATION

3.0. Evaluation of the host farm

Miika Estates Farm, is a multi-purpose agricultural, environmental, and hospitality enterprise. Founded by Dr. Fred Kabagambe Kaliisa, the farm is situated in the oil-rich Bugahya County of Hoima District and spans a vast area in Kikonoka Village.

Miika Estates also engages in hybrid seed production, including maize, beans and other drought-resistant varieties. It also collaborates with Uganda's National Agricultural Research Organisation (NARO) to supply quality seeds. The Eucalyptus plantations were the farm's first major project and are still a backbone of land use. Horticulture and fruit trees like mangoes and hash avocados are integrated for both commercial and environmental benefits. The farm is gradually introducing livestock components such as sheep, rabbits and piggery, though not yet at large scale. Animal droppings used in organic manure production encouraging sustainable farming.

Eco-Tourism and Resort Services. MEREHO offers 63-room hotel with A/C, modern bathrooms, private balconies, picnic areas, botanical gardens, and waterfall restaurant serving local and international cuisine and conference facilities. Environmental and sustainable Practices. Miika Estates Farm practices agroforestry (eucalyptus and fruit trees) which enhances soil health and biodiversity. Also eco-resort practices include recycling, wastewater management, and organic fertilizers from farm residues are used on crops.

Community Engagement & Employment. Miika Estates Farm employs over 60+ permanent workers and more during peak seasons. Partners with schools and universities for student field attachment and internships. Farmers benefit from seed provision, training sessions, and technical guidance.

3.1. Lessons learnt or insights.

Practical Agricultural Skills. Gained hands-on experience in crop production for example banana, coffee, vegetables. Also learned modern techniques like mulching, pruning, spacing, and intercropping and understood pest and disease control using both organic and synthetic methods.

Animal Management Knowledge. Acquired skills in feeding, deworming, and housing animals for example sheep, pigs, and poultry. Also learned the importance of routine health checks and disease prevention. And gained insight into animal drug use like Ivermectin for parasite control.

Post-Harvest Handling Techniques. Learned the importance of proper drying, sorting, and moisture content testing. And understood how poor handling can lead to losses and reduced market value.

Value of Agroforestry and Environmental Care. Appreciated the role of trees in soil conservation, water retention, and microclimate control. And also learned how eucalyptus and fruit trees can be integrated into farming systems for long-term sustainability.

Community Engagement & Communication. Improved communication skills through working with staff, interns, and community members. And gained confidence in team collaboration and knowledge sharing during extension activities.

3.2. Challenges (internal and external)

3.2.1 Internal

Short duration for practical exposure.

Repeating the same activity for example pruning of banana plantation daily led to boredom

3.2.2 External

Balancing multiple activities each day under tight schedules sometimes caused incomplete tasks.

There was no technical expert in the animal section

Minor illnesses for example flu and body pain due to the hilly landscape or exposure to farm conditions.

CHAPTER FOUR: CONCLUSION AND RECOMMENDATION

4.1 Conclusion

My field attachment at Miika Estates Farm has been a transformative experience. It exposed me to practical agricultural systems and deepened my understanding of sustainable farming methods. The knowledge and skills acquired will be instrumental in my academic and professional growth. I am grateful for the mentorship, guidance, and hands-on opportunities provided during this period.

The field attachment provided a valuable opportunity to gain practical experience in modern, sustainable, and integrated farming systems. The farm's operations ranging from seed multiplication, livestock rearing, agroforestry, to eco-tourism demonstrated how agriculture can be both productive and environmentally responsible.

Through participation in activities such as pruning, feed formulation, moisture testing, post-harvest handling, and packaging, developed hands-on skills that reinforced classroom knowledge. I also witnessed the importance of farmer empowerment, proper post-harvest management, and the role of innovation in addressing challenges faced by rural communities.

The farm's inclusive approach providing employment, training, and support to the surrounding community highlighted the power of agriculture as a tool for development. Furthermore, the integration of eco-tourism and value addition activities like water bottling showed how diversified agribusiness models can increase sustainability and resilience. Overall, the attachment was an enriching experience that enhanced my technical capacity, deepened my understanding of sustainable agriculture, and inspired me to contribute meaningfully to rural transformation in Uganda.

4.2 Recommendations

To ARU

Increase the time allocated for internships to allow students to gain more in-depth practical experience.

Incorporate more practical lessons in curriculum

Students should be introduced to the village leaders after reporting to the host farms

To Miika Estates Farm

Introduce a structured program to familiarize students with the activity schedules during orientation.

Recruit the animal expert to enhance students' learning

CHAPTER FIVE: REFERENCES

Miika Estates Company Limited. (2024). *Farm operations manual*. Hoima, Uganda: Miika Estates Internal Documentation.

Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). (2021). *Uganda Agriculture Sector Strategic Plan (2015/16–2019/20)*. Kampala, Uganda: Government of Uganda.

National Agricultural Research Organization (NARO). (2020). *Best practices in crop production and animal husbandry*. Entebbe, Uganda.

CHAPTER SIX: APPENDICES

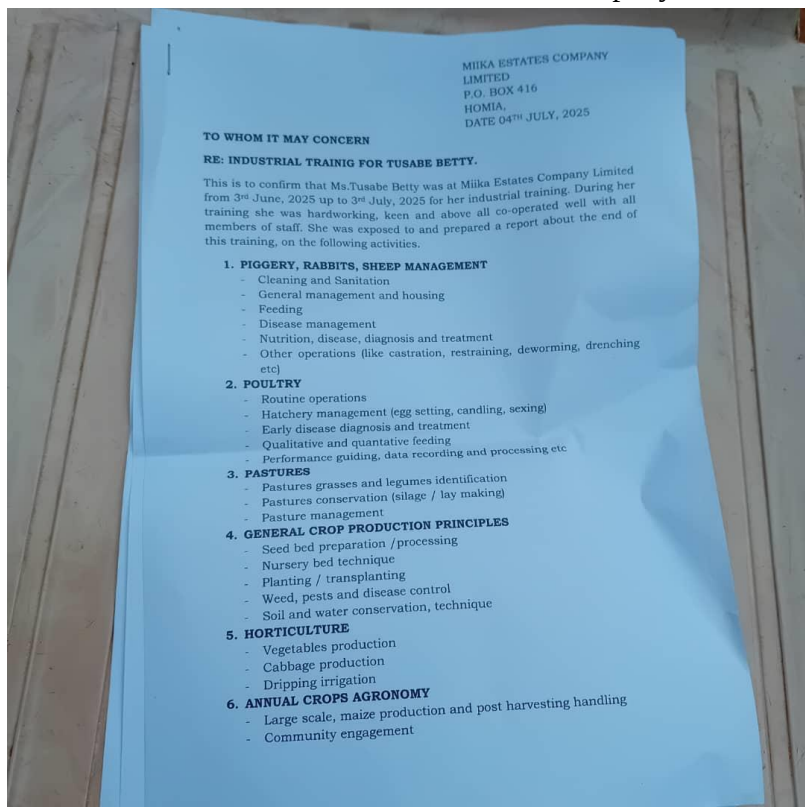
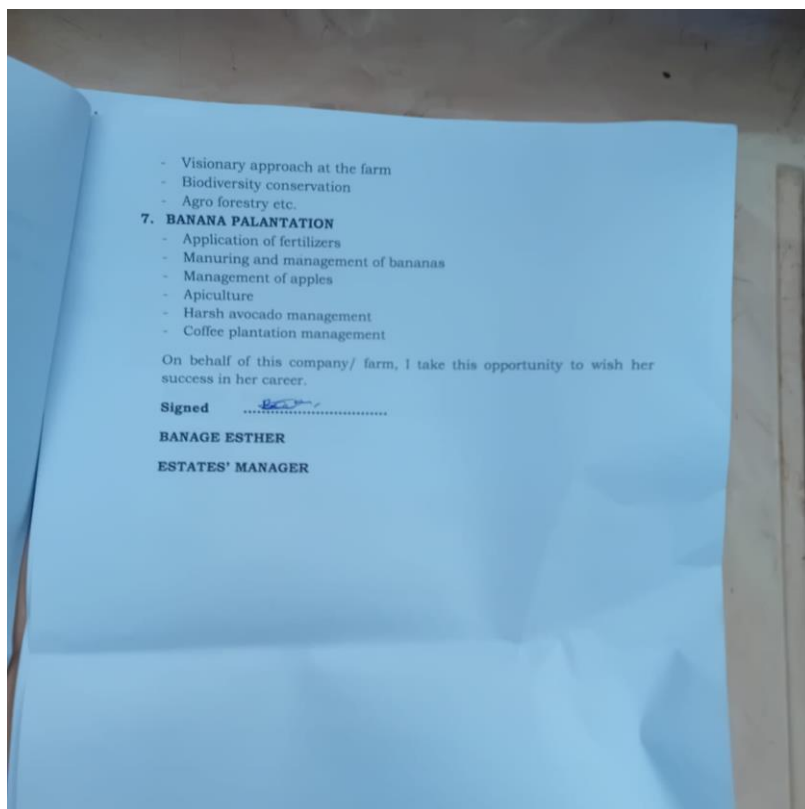
6.1 Attendance List for the Tourists to Miika Estates Farm as of June

NAME	PLACE OF RESIDENCE
TWESIGE STEVEN	HOIMA
TUMUSIIME MATHIAS	HOIMA
JAMES KINTI	KABALE UNIVERSITY
JOHN NYENJE	MASINDI
FR. KAHWA G. WILLIAM	HOIMA

6.2 Attendance List for Conducting CAP

NAME	CONTACT
KABARULI DAISY	0786946588
KYALIGONZA MARGRET	0775007208
KATO EMMANUEL	0766857311
KABASITA SARAH	0789904011
TIBAGWA GODFREY	0779018119
SENTARO SIRAJ	0772572159
CRISPASI KATUSABE	0777227913

6.3. Recommendation from Miika Estates Company Limited



6.4. Structural Tension Chart VISION

A confident and skilled practitioner in sustainable agriculture, effectively apply ecological and regenerative farming methods and engage meaningfully with farming local communities for knowledge exchange

Accountable	Action steps	Due dates
Betty	Share key lessons learned and compile the final report	4 nd July, 2025
Betty	Evaluate and document the activities carried out in the field	30 th June, 2025
Betty and farm manager	Explore agro- enterprise opportunities and continue with hands on learning	28 th June, 2025
Betty	Participate in a community farming meeting	22 nd June, 2025
Betty	Apply organic farming techniques and composting	15 th June, 2025
Betty and the farm workers	Engage in daily farm activities	8 th June, 2025
Betty and the farm manager	Orientation and tour of the farm	4 th June, 2025

Current reality

Limited practical field experience.

Theoretical knowledge of sustainable agriculture yet to be tested

Little exposure to rural farming communities and the real world farm systems.