CHUKA UNIVERSITY

Standard Operating Procedure

For

Farm Development (CU/SOP/FARM/22)

Document Review Sheet

The signatures below certify that this Standard Operating Procedure has been reviewed and accepted, and demonstrate that the signatories are aware of all the requirements contained herein and are committed to ensuring their provision.

	Name & Signature	**Position**	**Date**
Prepared by	Mr. J. Kamundi	Farm Manager	25.6.2012
Reviewed by	Prof. D. K. Isutsa	Deputy Vice-Chancellor (AA)/MR	01.3.2013
Approved by	Prof. E. N. Njoka	Vice-Chancellor	25.3.2013

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1.0 AMENDMENT RECORD SHEET

This Standard Operating Procedure is reviewed regularly to ensure relevance to the systems and process that it defines. A record of contextual additions or omissions is given below.

DATE	ISSUE NO.	REVISION NO.	PAGE NO.	SUBJECT OF REVIEW /MODIFICATION	REVISED BY HOD	APPROVED BY MR
1.3. 13	02	00	ALL	Changed Quality Management Representative to Management Representative	Mr. J. Kamundi	Prof. Isutsa
1.3. 13	02	00	ALL	Changed Deputy Principal to Deputy Vice-Chancellor	Mr. J. Kamundi	Prof. Isutsa
1.3. 13	02	00	ALL	Changed procedures to processes	Mr. J. Kamundi	Prof. Isutsa

2.0 GENERAL

2.1 Purpose

The purpose of this Standard Operating Procedure is to ensure that the farm operations are managed effectively and efficiently to ensure compliance with this International Standard and the University's Statutes, rules and regulations.

2.2 Scope

This procedure applies to and defines all the activities carried out by the Department from farm preparation to sale of products.

2.3 References

- CU Charter, 2013
- CU Quality Manual
- CU Statutes, 2013
- ISO 9001:2008 International Standard, Clauses 7.1, 7.2, 7.5, 7.6, 8.0

2.4 Abbreviations

AA	Administrative Assistant
DVC (AFP)	Deputy Vice-Chancellor (Administration, Finance and Planning)
HOD	Head of Department

2.5 Definitions

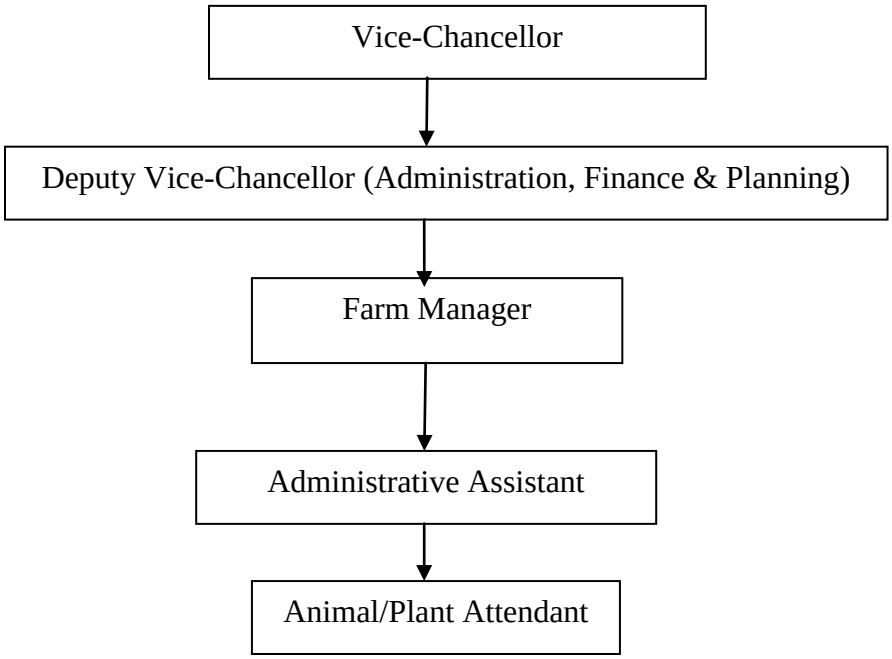
Farm Manager:	Head of the Farms Department
Farm Attendant:	A person employed to tend to plants on the farm
Livestock Attendant:	A person employed to tend to animals on the farm
Casual worker:	A person employed for a short period of time, usually less than three months in a year in one type of job.
Livestock:	Refers to domesticated animals such as cattle, poultry, pigs, goats, sheep, Ilama etc meant for production of meat, milk, eggs and other by-products usable by people.
Crop:	A plant crop for its edible products.
Plant:	A plant grown for edible or non-edible use.

2.6 Responsibility

The Farm Manager has the primary responsibility of ensuring that this procedure is implemented and remains adequate for its intended purpose and providing information from which the documentation for its processes can be compiled and for initiating action to keep them up to date. All departmental staff members are responsible for implementing and ensuring that these procedures are followed.

3.0 ADMINISTRATIVE STRUCTURE

The Farms Department falls directly under the supervision of the Farm manager and its operations are overseen by the Deputy Vice-Chancellor (Administration, Finance & Planning). The current administrative structure for the Division is as follows:



4.0 PROCESSES

4.1 Overview

- Requisition of farm inputs, tools and implements through the Deputy Vice-Chancellor (A, F&P) and the procurement department.
- Evaluation/monitoring of livestock and crop progress in the field.
- Keeping farm records up-to-date.
- Generating income through sale of crops and animal products
- Daily cleaning of the floor and feeding troughs for livestock

4.2. Process for Animal Production

Cattle

(i) Requisition for purchase of drugs and animal feeds are raised through the Deputy Vice-Chancellor (AF&P) and the procurement department.

(ii) Cattle inherited from Ndagani polytechnic are bred using improved bulls semen

(iii) The calves born are reared using mothers milk ,calf pellets and roughages

(iv) At maturity they are inseminated using improved bulls semen after which they are fed using high phosphorus, dairy meal supplements and high nutritious roughages

(v) After calving the cow is fed with high quality roughages, mineral supplements and dairy meal for high milk production

Sheep

(i) The local breeds inherited from Ndagani polytechnic do inbreeding and are meant for learning

Ilama

(i) They are fed using horse pellet, wheat brain and high nutrition roughages
(ii) They breed amongst themselves

4.3 Process for Plant Production

(i) Requisition for farm inputs i.e. planting seeds, fertilizers, insecticides and pesticides is done through the Deputy Vice-Chancellor (A, F&P) and the procurement department.
(ii) Land preparation is done either by casual labour or by farm implements (tractor).
(iii) Planting uses seeds, organic and inorganic fertilizers, farm tools and casual labour.
(iv) Weeding is done two weeks after germination crops are weeded by casual labour.
(v) Pest and disease control is done by casual labour using appropriate pesticides.
(vi) Second weeding is done as the first weeding
(vii) Top-dressing is done in case the field crop is maize using appropriate fertilizers.
(viii) Weeding for the third round is optional.
(ix) Harvesting is one using casual labour.
(x) Threshing and winnowing follows harvesting.
(xi) Dusting is done by application of appropriate pesticides
(xii) The produce is put in bags ready for storage.

4.4 Process for Storage of Farm Products

(i) The store is cleaned thoroughly and fumigated by casual workers
(ii) The harvested grains and cereals in bags are stacked in the store separately basing on type

4.5 Process for Sale of Farm Products

The income generated constitutes biological assets contribution A-I-A funds and is deposited with the Finance Department.

4.5.1 Field Crops

- Requisition to sell the produce harvested is made to the Deputy Vice-Chancellor (AF&P) and after approval is granted procurement procedures are followed (CU/SOP/PROD/25).

4.5.2 Coffee

- The ripe berries are picked and taken to the neighbouring factory for sale.

4.5.3 Bananas

- The ready bananas are sold following procurement procedures (CU/SOP/PROD/25).

4.5.4 Milk

(i) It is fed to calf for three months after calving
(ii) It is sold to the management (Vice-Chancellor and Deputy Vice-Chancellors' offices)
(iii) It is also sold to the Ndagani Farmers' dairy and individuals

4.5 Process for Farm Teaching

Demonstration plots

(i) Established by the department
(ii) Crops planted by teachers guide
(iii) Students learn from the establishment
(iv) Faculty of agriculture and environmental sciences uses plants and crops for practical student teaching and research.

Animals

(i) Faculty of Agriculture and Environmental Studies uses the sheep, cattle and Llamas for student research and practical teaching.
(ii) For anatomy and physiology studies the Faculty requests the Farm Department for authority to use the same.

5.0 RECORDS

- Daily Milk production book
- Daily occurrence book for livestock
- Daily occurrence book for crops
- Inventory
- Monthly labour utilisation
- Ledger book

6.0 KEY PERFORMANCE INDICATORS/ OBJECTIVES

(a) Indicators

(i) Number of animals kept
(ii) Number of produce harvested
(iii) Quantity of produce sold

(b) Objectives

- Generate income from sale of plant and animal products
- Provide plants and animals for teaching, demonstration and research purposes
- Provide AI services to improve animal products production
- Provide other farming advisory services to the neighbouring community

APPENDIX I: PROCESS MAPS

i. Animal Production

RESPONSIBILITY	ACTION
ASSISTANT FARM MANAGER ADMINISTRATIVE ASSISTANT	Start Requisitioning of inputs
DEPUTY VICE-CHANCELLOR (A,F&P),	Approval. NO/YES
PROCUREMENT DEPT	Purchasing of inputs and supplies
LIVESTOCK ATTENDANT	Cattle inherited from Ndagani polytechnic are bred using improved semen
TECHNOLOGIST	The calves born are reared using mother's milk ,calf pellets and roughages
ASSISTANT FARM MANAGER	• Insemination using improved bulls' semen after which they are fed using high phosphorus, dairy meal supplements and high nutritious roughages • After calving the cow is fed with high quality roughages, mineral supplements and dairy meal for high milk production • The local sheep breeds inherited from Ndagani polytechnic do inbreeding • Llamas are fed using horse pellet, wheat brain and high nutrition roughages and they breed amongst themselves. • Requisition for purchase of drugs and animal feeds is raised End

ii. Plant Production

RESPONSIBILITY	ACTION
ASSISTANT FARM MANAGER ADMINISTRATIVE ASSISTANT	Start Requisition for farm inputs i.e. seeds, fertilizers, insecticides and pesticides
DEPUTY VICE-CHANCELLOR (A,F&P)	Approval. No/YES
PROCUREMENT DEPT	Procurement sends quotations to suppliers
ASSISTANT FARM MANAGER ADMINISTRATIVE ASSISTANT INTERNAL AUDITOR	Opens the quotations Prepares quotation summary with supplier rating. Requisition for approved items made
ADMINISTRATIVE ASSISTANT CASUAL LABOUR ASSISTANT FARM MANAGER ADMINISTRATIVE ASSISTANT	• Land preparation is done either by casual labour or by tractor • Planting uses seeds, organic and inorganic fertilizers, farm tools... • Weeding is done 2 weeks after germination by casual labour. • Pests control is done by casual labour using appropriate pesticides. • Second weeding is done as the first, 3rd weeding is optional • Top-dressing is done using appropriate fertilizers. • Harvesting is done using casual labour. • Threshing and winnowing follows harvesting. • Dusting is done by application of appropriate pesticides • The produce is put in bags and stored.
ADMINISTRATIVE ASSISTANT ASSISTANT FARM MANAGER SENIOR ACCOUNTANT	List of casuals performing each activity is prepared and submitted to the senior accountant for payment

	End

iii. Farm Teaching

RESPONSIBILITY	**ACTION**
COURSE LECTURER	Start Request for teaching facility/plot
VICE-CHANCELLOR/FARM MANAGER	Approval. NO/YES
SENIOR ACCOUNTANT FARM MANAGER ADMINISTRATIVE ASSISTANT	End Preparation of list of expenses for payment

iv. Procedure for Sale of Farm Products

ADMINISTRATIVE ASSISTANT ASSISTANT FARM MANAGER	Start Requesting to sale farm produce
DEPUTY VICE-CHANCELLOR (AF&P)	Approval. NO/YES
FARM MANAGER	Sale
SENIOR ACCOUNTANT	Depositing of cash collected End