

PREAMBLE

In considering the Strategic Development Plan, SDP-V 2021-2025, this report offers a reflection on the commitment of Prisons Farms to fulfilling its responsibilities. The department's substantial contribution to the overall goal of Uganda Prisons Service is majorly production, practical training of inmates in agricultural related skills, and contributing to Non-Tax Revenue generation.

Farm production and prisoners' skills training, are undertaken on 64 Prisons Farm Units countrywide, each characterized by diverse scales and enterprises.

The output of various farming enterprises, and the number of prisoners benefiting from hands-on skills training are consistently increasing, for the Fiscal Year 2022/23, the cumulative annual crop acreage reached 21,959 acres. This encompasses maize grain (11,766 acres), seed maize (1,613.5 acres), raw cotton (5,145 acres), oil crops such as Soya bean (954 acres) and Sunflower (895 acres), Arabica coffee (160 acres), assorted vegetables, orchards (199 acres) and forest wood (1,320 acres).

In terms of budgetary contribution, in FY 2022/23 Prisons Farms, contributed more than 50% of the total UPS grain requirement valued at 16.15BN. Seed maize production fulfilled the entire maize seed requirement of the UPS Farms and made a contribution of 3.3BN as NTR, Cotton contributed 2,963 bales worth 3.189BN, while timber and poles from afforestation supported low-cost construction projects as sorted vegetables enriched prisoners' and staff diets. On the side of Livestock 115 cows, and 40 goats were issued for staff and prisoners welfare meat for Christmas valued at shs: 280M (Two Hundred, Eighty Million).

The impact of farming by Uganda Prisons Service extends beyond the confines of our Prisons to the wider community through demonstration of modern farming practices, community trainings, provision of quality planting materials and positive contribution by re-integrated former inmates that join the community with practical farming skills.

Despite the inherent challenges of a nature-based production system, including erratic weather patterns, storage constraints, mechanization limitations, field pests and diseases, input quality concerns, and challenges in the seed maize market, timely interventions have always mitigated effects of all the above mentioned challenges.

Special appreciation is to the Commissioner General of Prisons for his unwavering support and guidance. Equally Top Management, and all stakeholders are highly appreciated.

Heartfelt gratitude goes to the, technical teams of Farms Department, field staff and the prisoners who collectively run day to day farm activities to realize our UPS set goals and objectives.

A special mention is reserved for partner institutions such as; CDO, MAAIF, MUK, MWE, NARO, UCDA, UNMA and others for their substantial contributions and support, significantly enhancing the profile of UPS in farm collaborations.

Mr. Amos Turyashaba

Commissioner of Prisons-Farms Management

TABLE OF CONTENTS

Contents

PREAMBLE	I
TABLE OF CONTENTS.....	III
1.0 INTRODUCTION	1
1.1 Objectives of Farming in UPS.....	1
1.2 Structure of Prisons Farms Department	1
1.3 The Collaborative Workforce of Prisons Farms	2
1.3.1 Staff in Farms department	2
1.3.2 Population of prisoners.....	2
1.3.3 Workforce efficiency.....	3
1.4 Farms' Production and Targets.....	3
1.5 Elevating Farms' excellence through Quality Assurance.....	4
2.0 ENTERPRISE PERFORMANCE	7
2.1 Seed Maize Production	7
2.2 Cotton Production.....	12
2.3 Maize Grain Production.....	16
2.5.1 Sunflower	21
2.5.2 Soya Bean.....	22
2.7 Agricultural Engineering	24
Value Addition	28
2.8 Livestock Production	29
2.9 Environment Management and Afforestation	32
2.9.1 Environment Management.....	32
2.9.2 Afforestation	34
3.0 Vital Farm Issues Beyond the Fields	37
3.1 Capacity Building.....	37
4.0 Farming challenges	38
4.1 The future of Farming in Uganda Prisons Service	39
5.0 National Agricultural and Trade Shows	40

ACRONYMS

CDO	Cotton Development Organization
FY	Financial Year
LG	Local Government
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MOU	Memorandum of Understanding
MT	Metric ton
MUK	Makerere University
NARO	National Agricultural Support Organization
NTR	Non-Taxable Revenue
OPM	Office of Prime Minister
OPV	Open Pollinated Variety
SDP	Sector Development Plan
SOLCA	Southeast of Luzira Catchment Area
UCDA	Uganda Coffee Development Authority
UNMA	Uganda National Meteorological Authority
UPS	Uganda Prisons Service

1.0 INTRODUCTION

The Prisons Farms department actively engages in the commercial production of maize grain, maize seed, cotton, agro-forestry, orchards and livestock, supplemented by Agricultural Mechanization. With a crucial focus on contributing to the self-sufficiency, seed maize supply, the service manages an extensive 45,968 acres of arable land spread across 64 Prisons Farms operating in diverse enterprises.

1.1 Objectives of Farming in UPS

- Self-sufficiency.
- Provide quality and affordable Seed Maize: Producing quality seed maize to farmers, contributing to overall food security.
- Community engagement: Showcasing modern farming techniques for the surrounding communities to emulate.
- Contribution to Agro-processing Industries: Supplying raw materials to the country's agro-processing industries, including textiles and fruit processing.
- Cost Reduction and Revenue Generation (NTR): Generating revenue to alleviate the burden on taxpayers for maintaining offenders in custody.
- Rehabilitation and skilling of offenders: Equipping offenders with essential life skills to enhance their employability upon release.
- Employment opportunities: Providing employment, especially for long-sentenced prisoners, to facilitate effective management during custody.
- Testing Agricultural Innovations: Providing platforms for testing and trials of agricultural-based scientific innovations.
- Fulfilling the strategic Directives given from time to time.

1.2 Structure of Prisons Farms Department

Operating within the Directorate of Production and Engineering of Uganda Prisons Service, the Prisons Farms Department comprises of the following key divisions;

- Crop production and Seed Maize Multiplication
- Cotton Production
- Agricultural Engineering
- Livestock Health, Development and Entomology
- Environmental Management and Forestry

1.3 The Collaborative Workforce of Prisons Farms

1.3.1 Staff in Farms department

At the heart of the Prisons Farms Department's triumph lies a dedicated and collaborative workforce, seamlessly blending the expertise of custodial and technical staff with the active participation of inmates.

Farms department has 3,618 staff. The team is composed of both custodial officers and civilian technical officers, strategically positioned at various levels, both within the Farms and Headquarters. The civilian technical staff, bring specialized skills to enhance the efficiency of farming operations. This robust team, consisting of Agronomists, Agricultural Economists, Agricultural engineers, veterinary Doctors, environmentalists, forestry experts, tractor mechanics, and operators, plays pivotal roles in steering the Prisons Farms Department towards success.

1.3.2 Population of prisoners

With an inmate population of 19,063 in Farms, Prisons Farms boasts a commendable staff-to-prisoners' ratio of 1:6. This ratio is carefully maintained to facilitate hands-on agricultural training, providing prisoners with valuable skills that extend beyond the confines of incarceration.



Figure 1: Inmates coming from a maize garden

1.3.3 Workforce efficiency

The collaborative efforts of staff and prisoners are the driving force behind the annual cultivation of an impressive 20,373 acres of land. This vast expanse encompasses the cultivation of various crops, including maize grain, seed maize, cotton, oil crops (such as sunflower and soya bean), orchards, forests, vegetables, and the management of a diverse livestock comprising of cattle, goats, sheep and pigs.

1.4 Farms' Production and Targets

In the Fiscal Year 2022/2023, the Prisons Farms Department set ambitious production targets across various enterprises, demonstrating a commitment to agricultural excellence. The department aimed for 10,000 acres of maize grain, 1,200 acres of seed maize and 6,000 acres of cotton among others

Prisons farming operates within primarily Rain fed Agriculture, facing challenges from natural calamities such as floods, delayed rains, and droughts. Despite these adversities, the productivity of various farming enterprises remains commendable. In addition to these, the department proactively expanded its cultivation to include oil crops such as sun flower and soya bean (1,853 acres), forestry (1,227 acres), and fruits and assorted vegetables.

Recognizing the pivotal role of available land in accommodating these diverse enterprises, the department is actively engaged in opening up more land for expansion. This strategic expansion is designed to facilitate increased production and the adoption of modern farming technologies, including mechanization, improved seeds, and quality farm inputs such as fertilizers and agrochemicals.

Table 1: Targeted Annual Acreage per Enterprise for Financial year 2022/23

Crop	Targeted Annual Total acreage	Acreage cultivated annually
Maize grain	10,000	9,786
Seed maize	1,200	1,617
Cotton	6,000	5,442
Sunflower	2,000	895
Soya bean	2,000	958
Coffee	N/A	225
Afforestation	2,000	1,320

1.5 Elevating Farms' excellence through Quality Assurance

Quality assurance stands as the cornerstone of success throughout the production cycle in Prisons Farms. Whether it be the intricate process of seed maize production or the routine operations of various farm enterprises, maintaining the highest standards in product quality is non-negotiable. The Farms Department conducts regular farm inspections, underscoring its unwavering commitment to quality assurance, strict adherence to standards, and the overall safety of its agricultural output.



Figure 2: ACGP/ Dir. P&E on routine inspection at UG. Prison Farm Tororo.

Supportive supervision is a key practice, serving as a comprehensive evaluation mechanism at various stages of the agricultural journey. From inspection of farm machinery before the season starts, field preparation and planting to vigilant weeding, pest control, harvesting, and secure storage. During these inspections, key stakeholders at the farm level actively engage in collaborative discussions. These conversations are pivotal for addressing challenges head-on and formulating road maps to propel the farms towards sustained excellence and heightened productivity.



Figure 3: Foundation Seed Maize Inspection at U.G Prisons Farm Mubuku



Figure 4: Joint inspection by MAAIF, NARO and UPS on Quality assurance

2.0 ENTERPRISE PERFORMANCE

2.1 Seed Maize Production

In a strategic move towards agricultural self-sufficiency and enhanced food security, the Prisons Farms Department embraced seed maize production in 2016 as a delegated mandate from H.E the President of Uganda. This initiative not only tackles the challenge of adulterated seeds but also plays a vital role in fortifying the nation's overall food security by providing high quality certified maize seed to farmers at affordable prices. In this Financial year 2022/2023 a total of **1,430.7MT** of certified maize seed and **67.5 MT** of foundation seed were produced.



Figure 5: A Hybrid Seed Maize UH5355 field at UG. Prisons Farm Ruimi showing male and female lines. Behind is Kibale Forest Reserve good for isolation.

Seed maize producing farms namely; U.G Prisons Farms Ruimi for Hybrid seed, Amita for OPV longe 5D which is enriched with protein, Kitalya, Orom-Tikau, Ragem, Bulaula, Loro and Mubuku, for bulking parent lines. The quality of Prisons seed has earned acclaim, boasting an impressive performance score of 99% purity and 95% germination after laboratory tests at National Agricultural Research Laboratory Kawanda.



Figure 6: Maize seed drying on a platform at U.G Prisons Farm Ruimi, the best drying method under conducive weather.



Figure 7: A section of Treated and bagged maize seed awaiting loading at U.G Prisons Farm Ruimi.



Figure 8: Farmers lining up for Prisons maize seed at U.G Prison Lira

Prisons maize seed touching Farmers lives on the account of its 99.9% purity and 95% germination.

The seed enterprise directly contributes to Prisons' self-sufficiency, supplying 100% of the certified maize seed requirement for maize grain production across all prison farms. Beyond intrinsic benefits, it addresses market challenges of adulterated and overpriced seeds, reducing middlemen influence. Financially impactful, the Seed Maize Enterprise targets a substantial Non-Tax Revenue (NTR) of 5 Billion Ugandan Shillings annually. During the review period, 115 metric tons of certified seed, valued at UGX 690 Million, were distributed and planted across Prison farms, emphasizing its economic significance and pivotal role in sustaining the agricultural ecosystem within Prison facilities.

Table 2: Seed Maize Production Trend

FINANCIAL YEAR	ACREAGE	OUTPUT IN MTs
FY 2016/17	975	655.6
FY 2017/18	1,071	1,051.5
FY 2018/19	1,462	1,218.7
FY 2019/20	1,163	1,348.9
FY 2020/21	1,261	1,157.3
FY 2021/22	1,202	1,112.1
FY 2022/23	1,613.5	1,430.7

In FY 2021/22, 1,202 acres yielded 1,112.1 MTs, while FY 2022/23 saw remarkable growth, with 1613.5 acres producing 1,430.7 MT. Acreage increased by an impressive 34.5%, and output grew by about 28.5%, highlighting Prisons Farms' resilience and dynamism in seed multiplication.

2.1.1 Seed processing and treatment

Simple seed treatment equipment was procured to help in having our seed processed, treated, and bagged ourselves to avoid adulterations by third parties. All the units have been supplied save for the dryer whose delivery is ongoing.



Figure 9: Seed processing unit ready for installation at U.G Prisons Farm Ruimi



Figure 10: Seed maize dryer to be installed at Ruimi

2.2 Cotton Production

In an endeavor to contribute significantly to the national demand for raw materials in the textile industry, Prisons Farms Department has been actively engaged in cotton production since the inauguration of this delegated mandate by H.E the President in October 2016. This visionary project commenced at UG. Prisons Farm Orom Tikau. During the period under review, the set target was 6,000 acres, cultivation covered a substantial 5,145 acres across 40 prison farms Countrywide. The annual average cotton production, totaling **2,963 bales**, reflected a productivity rate of 0.58 bales per acre. This achievement translated to UGX **2.37 Billion** in Non-Tax Revenue (NTR), with the price per Kg ranging between UGX 1,500-2,800.



Figure 11: Joint inspection of Cotton production at UG. Prisons Farm Loro with CDO

As the Prisons Farms Department looks ahead to 2025, the ambitious goal is to cultivate 10,000 acres of cotton, emphasizing a sustained contribution to the nation's economic growth. While cotton may be considered a low-value crop in terms of gate prices, its impact on national development is significant. The multifaceted contributions include robust support to industrial growth in the textile sector, the creation of employment opportunities, a substantial annual revenue generation (NTR), and the valuable earning of foreign exchange.



Figure 12: Cotton production at UG. Prisons Farm Mukuju



Figure 13: Prisoners picking well managed cotton at U.G Prisons Farm Orom- Tikao in Kitigum District.



Figure 14: Inmates loading cotton at U.G Prisons farm Kaberamaido for transportation to the Ginnery

2.2.1 Cotton Production Trends

The cotton production project at Prisons Farms has grown significantly from its inception, with cultivated acreage expanding from 4,048 acres in 2017 to a substantial 5,145 acres in 2023, representing a remarkable 27% increment in cultivated land. This expansion not only showcases the project's resilience but also highlights a strategic commitment to scaling up cotton production.

The growth extends beyond acreage, with the average annual output experiencing commendable growth, reflecting a notable 45% increment. Results are evident in the increased output, rising from 1,021.2 MTs in 2017 to an impressive 1,481.7 MTs in 2023. This improvement underscores the dedication and perseverance, playing a pivotal role in contributing to the national demand for raw materials and fostering economic growth within the textile industry.

Table 3: Cotton production trends

FINANCIAL YEAR	SEASON	ACREAGE	OUTPUT IN MTs
FY 2017/18	2017	4,048	1,021.2
FY 2018/19	2018	4,455	1,267.8
FY 2019/20	2019	4,746	1,356.3
FY 2020/21	2020	4,893	1,250.9
FY 2021/22	2021	5,169	1,875.1
FY 2022/23	2022	5,145	1,955.1

2.3 Maize Grain Production

Introduction

Prisons Farms champions commercial maize grain production, covering 10,000 acres annually across 28 farms dedicated to maize grain production. Beyond productivity, this enterprise reflects a commitment to food self-sufficiency by UPS and fiscal responsibility by minimizing taxpayers' burden of maintaining offenders in custody. Grain production also implies less dependence on the market by UPS for its food requirement thereby improving on food availability for the general population hence improved national food security.

Table 4: Maize Grain production trend

FINANCIAL YEAR	ACREAGE	OUTPUT IN MTs
FY 2013/14	6,258	5,705.8
FY 2014/15	6,210	6,551.7
FY 2015/16	6,370	6,482.9
FY 2016/17	7,713	5,530.6
FY 2017/18	8,715	6,972.2
FY 2018/19	9,789	7,397.7
FY 2019/20	9,297	8,100.4
FY 2020/21	9,724	8,196.2
FY 2021/22	9,374	6,735.2
FY 2022/23	11,766	8,394.8

2.3.1 Contribution of Grain Production

In the ongoing commitment to meet the maize grain requirement of feeding inmates, Prisons Farms has emerged as a key player, particularly in the production of commercial maize grain. Presently, the farms boast yield of 8,394.8 Metric tons in the financial year under review, making a substantial contribution to the complex task of fulfilling the inmates' dietary requirements.

This annual maize grain output equates to about 50% of the total grain demand for the financial year, estimated at 17,752 tons. This significant contribution underscores the pivotal role played by Prisons Farms in addressing the escalating food demand driven by the continual upsurge in the inmate population.



Figure 18: A section of maize grain field at U.G Prisons Farm Isimba.

2.3.2 Key Drivers of Successful grain production

Strategic initiatives driving success in maize grain production at Prisons Farms include but are not limited to;

- A competent and committed workforce, contributing to the impressive growth trajectory in maize grain production. Their dedication and expertise underscore the pivotal role played in realizing and sustaining this success story.
- Acreage expansion, aligning with growing demand, demonstrates a proactive approach to meeting nutritional needs.
- Emphasizing quality inputs, including superior seeds and fertilizers, elevates the output's quality and yield.
- Ongoing infrastructure improvements in drying and storage facilities maintain integrity and market readiness.
- Capacity building, which entails routine training of both staff and inmates in good husbandry practices.
- The integration of modern agricultural machinery enhances production efficiency.
- Adoption of advanced farming technologies such as soil analysis for optimal conditions, enhancing yield and quality.

2.4 National Food and Feeds Security

Working on guidance of H.E the President on National Food and Feeds security, Uganda Prisons Farms Department is undertaking special assignments, elevating its role beyond conventional farming operations. Two noteworthy initiatives underscore the department's commitment to broader societal welfare in a concerted effort to contribute significantly to national food and feeds security.



Figure 16: Maize field under Food and Feed security at U.G Prisons Farm Aswa- 1

Under the intervention of Ministry of Agriculture, Animal Industry, and Fisheries (MAAIF), the National Food & Feeds Security Program takes center stage in Prisons Farms' mission. This initiative aims not only to produce essential food items but also to generate feeds for livestock, fostering comprehensive food and feeds security for the country.

As part of the ongoing commitment to national food security, Prisons Farms is strategically expanding its footprint to new stations. The addition of Aswa, Awei Aloi-Ongom, Odina, and Pingire to the roster of stations underscores the

department's proactive approach to broadening its impact. These new stations are poised to play a pivotal role in the nationwide intervention, contributing to the production of food and animal feeds that are vital for sustaining the country's food Security objectives.

2.4.1 Karamoja OPM Program

This is run with assistance from Office of the Prime Minister under the Karamoja school children feeding program and food security, implemented at U.G Prisons Farm Namalu.

Aligned with the Karamoja school children feeding program and food security initiative, the Prisons Farms Department actively participates in special assignments implemented at Namalu Prisons Farm. This program, focuses on production of maize grain for school children in Karamoja sub region to contribute to regional food security concerns. Namalu Prisons Farm stands as a key contributor to the success of this initiative, exemplifying the department's dedication to community welfare beyond traditional farming roles. A total of 500 acres have been assigned to this cause with output of about 500MT of maize.



Figure 17: A section of Maize field at U.G Prisons Farm Namalu in Nakapirit District

2.5 Oil Crops

The Oil Crops initiative within Prisons Farms emerges as a strategic player in the intricate web of seed maize, maize grain, and cotton production. Designed to ensure quality assurance and bolster soil nutrients and pest management, the initiative places particular emphasis on two key crops: Sunflower and Soya bean.

2.5.1 Sunflower

Sunflower takes center stage in the oil crops initiative, notably as a cover crop, aiding in breaking the pests and disease cycles affecting other crops. Operating on a contractual basis, Mukwano Industries provides sunflower seeds to Uganda Prisons.

During the reporting period, there was a 55.7% improvement in planted acreage, with 895 acres compared to the previous year, 2022, which had 575 acres. The output also saw a 13% increase, reaching 278,082 kgs, compared to the 246,065 kgs harvested in 2022. Harvested sunflower seeds serve as raw materials for diverse products, creating a symbiotic relationship that has cultivated success. Beyond contractual commitments, sunflower has proven itself as a significant revenue-generating crop for Prisons Farms.



Figure 18: Sunflower field at U.G Prisons Farm Ruimi

2.5.2 Soya Bean

Soya bean, a rotational crop on prison farms, disrupts pest and disease cycles, benefiting crops like maize and cotton. Its pivotal role in nitrogen fixation enhances soil health. Beyond boosting inmate diets, it also plays a crucial role in revenue generation. During the period under review 2022/23, 954 acres of soya bean across Prisons Farms yielded 76,760 Kgs. The Oil Crops initiative, focusing on sunflower and soya bean, showcases Prisons Farms' commitment to diversification, sustainability, and socio-economic impact.



Figure 18: Soybean production at UG. Prison farm Rukooki with prisoners in the background.

2.6 Coffee production

In 2017, UPS initiated Commercial Coffee Production, partnering with the Uganda Coffee Development Authority (UCDA) through a strategic Memorandum of Understanding (MOU). This collaboration saw the cultivation of 160 acres of Arabica coffee, with 120 acres at UG. Prisons Farm Lotuturu and 40 acres at UG. Prisons Paidha. This programme aims at promoting coffee production in the greater Northern Region.



Figure 19: Coffee pulping machine at UG. Prison farm Lotuturu. The machine was acquired in collaboration with Uganda Coffee Development Authority (UCDA).

2.7 Agricultural Engineering

At the core of Prisons Farms Department thrives innovation and efficiency, led by the Agricultural Engineering Division. The Agricultural machinery is meant to ease the work of prisoners as we do semi-mechanized (up to about 40%) farm operations to increase efficiency. Beyond routine maintenance, this division ensures efficiency of all agricultural machinery, offering technical support during procurement and building a diverse capacity vital to the agricultural lifecycle.

2.7.1 Agricultural machinery

The division has a fleet of 50 running tractors. Out of a total 67 Prison farms, 33 have tractors.

In the period under review, 13 tractors that had been grounded were repaired and they are now running. Service & maintenance of all the 50 running tractors was done, thanks to the tractor maintenance fund that has helped us do this.

In the same period five (5) ten tone capacity tractor trailers were procured to ease harvest and post-harvest operations.

Table 5: Agricultural Machinery under Procurement

Item No.	Description	Quantity
1	Tractors(90HP)	12
2	Disc Ploughs	12
3	Heavy duty disc Harrow	2
4	No till planter	1
5	Maize Sheller	2
6	Tractor trailers	2

These new machinery will mainly be deployed in the new National Food security Farms.



Figure 20: Tractor UG0251U being tested after engine overhaul at our Tractor maintenance unit Luzira

2.7.2 Key infrastructure in Post-Harvest Handling

The construction of Turn- key design and build silo projects at the two sights of U.G Prisons farm Lugore and Ruimi are at 55% and 66% completion respectively. With each sight having storage capacity of 3,000MT thus a total of 6,000MT of maize grain will be stored. The project covers reception of grain, conveying, cleaning, drying, storage and bagging. This will greatly improve our post-harvest handling and storage capabilities from the currently used Maize cribs to modern silo.



Figure 21: A 3,000MT twin Silo base under construction at U.G Prisons Farm Ruimi.

Post-harvest handling is a critical aspect of the Uganda Prisons Farm department's agricultural operations, with a current reliance on nature-dependent drying methods. Presently, grain maize undergoes a process where it is harvested and temporarily stored on a concrete platform before being placed in an aerated maize crib until shelling.



Figure 22: Inmates at UG. Prison farm transferring dried maize into cribs

However, this conventional handling method results in a substantial post-harvest loss of nearly 30% each season. To address this challenge, the department envisions a shift toward the adoption of artificial dryers and silo storage systems. This strategic move aims to expedite operations, ensuring quicker processing, and, more importantly, to significantly reduce post-harvest losses to a target of no more than 5%.

2.7.3 Produce Storage

In the realm of the Uganda Prisons Farm department, efficient produce storage is a cornerstone for preserving agricultural produce. The storage facilities, including cribs, block stores, and rub-halls, currently at total capacity of 10,527 metric tons. However, with an ambitious target of cultivating 28,000 acres for grain, seed, and cotton, the anticipated total storage requirement skyrockets to 44,000 metric tons

To meet this demand and curtail post-harvest losses to a maximum of 5%, an additional storage capacity of approximately 33,523 metric tons is imperative. In response, the department is actively implementing interventions such as the installation of silos and processing plants for grain, strategically located at Lugore and Ruimi prisons farms.



Figure 23: Grain Storage System at UG. Prisons Farm Ruimi

2.7.4 Value Addition

Processing and Value Addition in the Prisons Farm department is a vital facet of its agricultural operations, ensuring the optimization of produce for inmates' consumption. Each region is equipped with essential processing machinery, including a hammer mill and a 10-ton/hr PTO (power take off)-driven maize thresher. These facilities play a crucial role in milling inmates' food, fostering self-sufficiency within the prison system.

2.8 Livestock Production

Introduction

This detailed report presents an exhaustive overview of the UPS current endeavors and strategic developments in the realm of livestock management.

Anchored by the expert guidance of the Livestock Health, Production, and Entomology Divisions within the Prisons Farms Department, UPS has embarked on a journey of significant transformation and growth in its animal production and health management strategies. This report aims to shed light on the various facets of UPS's livestock initiatives, illustrating the intricate blend of traditional practices and modern techniques that form the backbone of these agricultural ventures.

Current Status of Livestock

Cattle	Goats	Sheep	Pigs
1539	310	88	105

In the period under review, Farms department under her livestock Division targeted the following;

1. Increasing the number and performance of animals.
2. Restocking Lugore with 50 heifers to be procured and delivered to Lugore.
3. Construction of feedlots at U.G Prisons farm Lugore.
4. Making animal feeds i.e. silage making and hay making for feeding of animals under the fattening program.
5. Construction and renovation of farm structures i.e. construction of a calf pen in kiburara and renovation of the dip in Isimba.
6. Creation of a livestock database/information system by tagging of animals and collection of data and entry of the same in the system.

What was done or achieved

- 50 heifers procured and delivered to Lugore.
- Construction of two feed lots completed.
- 50 breeding animals in Mutukula, 02 bulls in Lugore and 01 bull to Fort portal purchased.

- In the period under review Prisons livestock division won the best livestock trophy at the National source of the Nile Agricultural and trade show in Jinja of 2022.
- 70 tons of silage and 250 tons of hay were made at Isimba and Lugore.
- Livestock production facilitated hands-on training and skill development for prisoners in modern animal husbandry practices, offering a path to rehabilitation.

2.8.1 National Contribution: A strategic alliance with the National Animal Genetic Resource Centre & Data Bank-NAGRC & DB reinforces UPS's role in contributing to the production of high-quality livestock breeds for the broader farming community.

2.8.2 Tick vaccine trials:

Prisons livestock division in collaboration with Ministry of Agriculture Animal Industries and Fisheries is participating in the tick vaccine trials at U.G Prisons farms Isimba and Kiburara. The trials are promising and still on going. When completed and successful it will go a long way in solving the problem of tick-borne diseases which for long time have been a major challenge in livestock production in the country.

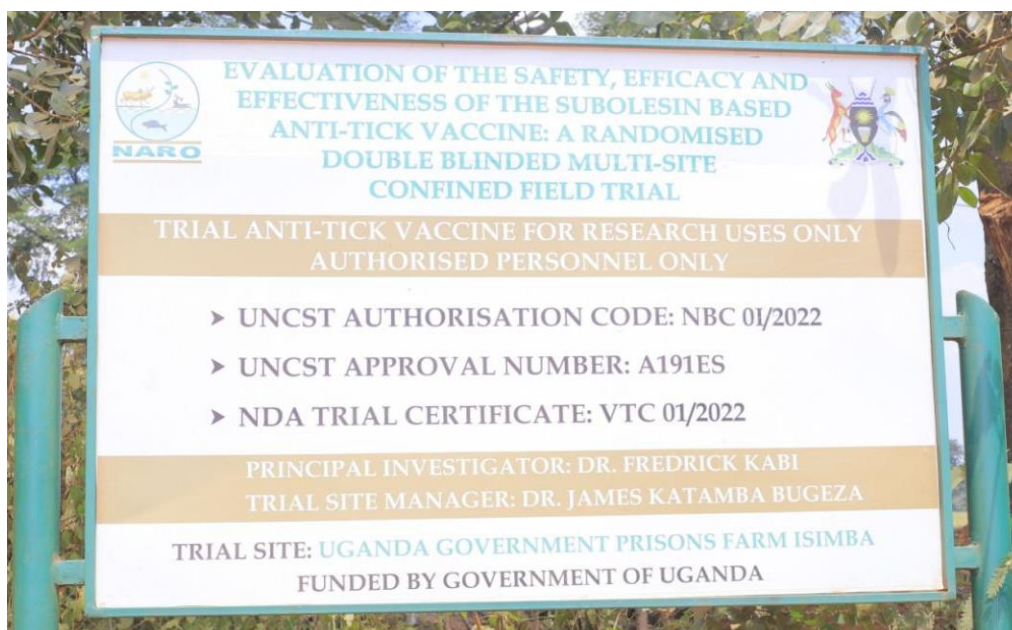




Figure 24: The CGP Dr. J.O.R Byabashaija guiding a newly deployed Vet Dr. A Namukasa at U.G Prisons Farm Isimba. In the background are 1200 acres of maize ready for harvest.

2.8.3 Canine Section: This unit provides essential support to safety and security in canine healthy before deployment.



Figure 26: A section of Canine staff after completion of Dog Handling Training course

2.9 Environment Management and Afforestation

Sustainable Agricultural production relies on pivotal elements such as Environmental Management and Afforestation. These components play a crucial role in the replenishment, restoration, and conservation of farmlands. The purpose is to ensure long-term sustainability.

2.9.1 Environment Management

In line with international approaches to environmental protection, the Environment Management division of the Farms Department at UPS is fostering sustainable agricultural practices. Guided by a phased approach, specifically ISO 14005, the department has actively pursued the establishment and implementation of an Environmental Management System.

Enhancing Meteorological Information Utilization: During the reporting period, there was a concerted effort to facilitate increased access and uptake of meteorological information provided by UNMA (Uganda National Meteorological Authority) within UPS prisons farms. The provided information encompassed crucial seasonal rainfall outlooks for specific periods. Additionally, the dissemination included essential decadal agro-met bulletins and press releases by the Uganda National Meteorological Authority (UNMA), empowering farms with invaluable insights for informed decision-making.

Revitalization of Weather stations Network under UPS: Underlining the commitment to localized weather data, an important milestone was achieved through the signing of a Memorandum of Understanding (MoU) between UNMA and UPS. This agreement aimed to revive and expand the weather stations network under UPS across the country. UNMA, as part of this collaboration, handed over 23 rain gauges to UPS, currently being installed.

Environmental due diligence: The Environment division also played a crucial role in advising on environmental matters concerning land dealings, as required under Section 30(m) of the National Environment Act of 2019. This included on-

site visits to lands slated for procurement in Sheema and Luwero Districts, ensuring that UPS's activities align with environmental regulations.



Figure 26: Key stakeholders of the SOLCA project during a site visit to Luzira complex

Southeast of Luzira Catchment Area (SOLCA) Project:

The overall objective of the SOLCA project is to reduce effluents ending up in Lake Victoria untreated, through targeted infrastructure investments in wastewater and solid waste management. This will be achieved through transfer wastewater from this catchment area to the Nakivubo Wastewater Treatment Plant (WWTP), which is under-utilized.

The Feasibility study for the South East of Luzira Catchment Area project was completed and a report submitted along with the associated documents. The documents included; pump station drawings, topographical and geotechnical reports, electrical survey reports, Sanitation, Education, and Hygiene Promotion Concept report, and the Environmental and Social Screening and Scoping report have been completed. UPS was actively engaged at the various stages and in the stakeholder meetings, both physical and virtual (14 physical and 11 virtual meetings). The next Phase, Work stage 3 (Developed designs), is anticipated to commence no later than January 2024.

2.9.2 Afforestation

Over the years, woodlot coverage has continued to increase across our major prison farm stations as shown in table below.

Table 6: Afforestation coverage for the last Four Financial Years

Financial Year	Coverage (acres)
FY 2019/20	902
FY 2020/21	1,207
FY 2021/22	1,227
FY 2022/23	1,320

Afforestation activities in UPS



Giant Bamboo seedlings ready for transplanting, Can be planted along river Banks for conservation.



Left: *Prioritising Indigenous tree seedlings such as; Mvule, Mahogany, Afzelia and Gmelina*

Right: *Dispatching seedlings to different Prison farm stations*

2.9.3 Fruit Trees and Orchards

Fruit trees at Prisons Farms are a strategic initiative intertwining soil restoration, nutrition, and community sustenance. This effort creates green landscapes and a vital nutrient source for prisoners, staff, families, and the community. Current cultivation includes diverse mango and budded orange varieties, like Bire, Boroboro, Kagongo, Tommy Atkinson, Valencia, Washington Navel, and Hamline. Orchards sprawl over 199 acres, showcasing commitment to sustainable farming. These thriving ecosystems, contribute to the well-being of the Prisons community and surroundings. Fruit trees, promoting environmental health and nourishing communities, embody Prisons Farms' holistic approach. Orchards also radiate impact, fostering resilience and vitality within and beyond prison walls.



Figure 27: Orchards at UG. Prison Farm Lugore Gulu District



Figure 28: Orchard (citrus) at UG. Prison Farm Lugore

3.0 Vital Farm Issues Beyond the Fields

3.1 Capacity Building

The Department conducted trainings in recommended Agronomical practices in maize grain production, seed multiplication, cotton production, and Bed shamba to increase production and enhance productivity. The aim was to bring together all Farms engaged in different Farm enterprises share major agronomical and management practices of Farms. It also purposed to come up with a unified position, recommendations and develop a working document for Farming season 2023-2024.

3.1.1 Training Objectives

- 1) Foster an understanding of best pest management practices among all OCs involved in Grain production, seed multiplication, and cotton production on Prison Farms.
- 2) Enhance OCs' awareness of the various roles played by different personnel on the farm, including technical officers.
- 3) Evaluate the maintenance of farm machinery and associated records.
- 4) Examine the management of produce records, emphasizing the creation of comprehensive end-of-season reports.
- 5) Collaboratively establish targets and operational standards, adopting them as a working document for the upcoming Farming season in 2023.



Figure 29: Farmers learning from Farmers, A benchmark workshop in Agricultural production and productivity enhancement at U.G Prisons Farm Ruimi in Bunyangabu District.

4.0 Farming challenges

Despite the notable milestones, the Department is still faced with multifaceted challenges affecting production and productivity:

- **Climatic variability:** The Farms department contends with adverse impacts of climate change, marked by frequent droughts and floods that disrupt essential farming operations.
- **Pests and Diseases:** Persistent threats from crop infestations, particularly Fall army worms, cotton ball worms pose ongoing risks to agricultural yields.
- **Animal Health concerns:** Livestock faces challenges with outbreaks of diseases such as Anthrax, lumpy skin, foot and mouth disease, impacting both animal welfare and productivity.
- **Capitalization constraints:** The Farms department grapples with limitations in financial capital, impeding its ability to invest in essential resources and technologies. This leads to low fertilizer uptake, lack of irrigation, and low capacity machinery.
- **Agro-Chemical Quality:** Concerns about the quality of pesticides, fungicides, and herbicides available in the market raise apprehensions regarding their effectiveness.
- **No budgetary provisions for additional stations under the National Food and Feeds program.**
- **Limited Storage Infrastructure:** Insufficient facilities for effective post-harvest storage create bottlenecks in preserving the quality of harvested crops and managing agricultural yields.

4.1 The future of Farming in Uganda Prisons Service

- **Timely Pest and Crop Management:** Implement timely farm operations to address crop and pest infestations promptly, mitigating the impact of climatic variability.
- **Crop and Animal Health Vigilance:** Adhere to recommended vaccination regimes for proactive control of animal diseases, addressing the persistent risks posed by pests and diseases. Frequent scouting of crops to facilitate early identification of new infestations or diseases.
- **Climate smart agriculture Conservation Agriculture and Irrigation,** embrace guided soil restoration techniques, including crop rotation and soil analysis, to manage soil to enhance soil health.
- **Capitalization Advocacy:** Strengthen advocacy for Prisons Farms' capitalization through credit financing and strategic partnerships, alleviating limitations in financial capital.
- **Skilled Workforce:** Scout for additional technical personnel proficient in various aspects of the agricultural value chain and improving the human capital development of the existing technical staff.
- **Storage Infrastructure:** Advocate for increased storage capacity and convenient post-harvest infrastructure, addressing the insufficient facilities for effective post-harvest storage.
- **Value addition:** Integrate value addition processes to enhance the premium of farm products.

5.0 National Agricultural and Trade Shows

Uganda Prisons Farms Department participation in Agricultural and trade shows. One notable event is the Annual Source of the Nile Agricultural and Trade Show organized by the Uganda National Farmers' Federation (UNFE) in collaboration with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF). This event serves as a platform for Prisons to actively engage in displaying livestock, farm machinery, quality certified maize seeds, forestry products and various agricultural practices.

During the show a lot of Farming knowledge and technologies is given to farmers in enterprise selection, recommended Agronomical Practices, Animal Health etc since we operated a full week training programs in crop and livestock production.

Uganda Prisons emerged the best overall winner but also the best Government Agency in the 29th Annual Source of the Nile Agricultural and trade show Jinja



Figure 30: State Minister for Agriculture Hon. Fred Bwino handing over the best overall winner in the 29th Source of the Nile Agricultural and trade show Jinja after emerging the best overall and the best Government agency.