FAO | WORLD FOOD FORUM | HAND-IN-HAND INVESTMENT

REPUBLIC OF UGANDA

MAAIF
Ministry of Agriculture
Animal Industry and Fisheries

Uganda Hand in Hand Investment Proposal

World Food Forum Rome Italy
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Hon. Lt. Col. (Rtd) Dr. Bright Rwamirama
Minister of State for Animal Industry Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)

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Overview of the economy

Enabling environment for investment in Agriculture

Investment cases

Uganda: *Economy* overview

- GDP: USD 55 billion
- Population: 45.9 million
- Economic Growth rate: 5.3%
- Agriculture contributes 24% to GDP
- Poverty rate 20.3%

National Development Plan IV (2025/26-2029/30)

- 10-fold economic growth to USD 500 billion in 15 years
  - ✓ Increase household incomes
  - ✓ Create more employment
  - ✓ Sustainable industrialization for inclusive growth
- Reduce population from poverty line from 20.3 to 15.5%
- Increase income per capita from USD 1051 to USD 2008

HiH *Alignment with government Strategic Direction*

The Hand in Hand objective of accelerating agricultural transformation and sustainable rural development to eradicate poverty (SDG 1) and end hunger and all forms of malnutrition (SDG 2) resonates with Uganda Vision 2040 and the current NDP 4 Strategic direction

Vision 2040

Target to transform Uganda from low-income into a competitive upper-middle-income country within 30 years

National Development Plan IV

Theme: Sustainable industrialization for inclusive growth, employment, and wealth creation

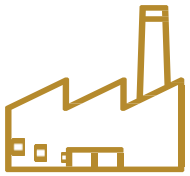
Why Invest In Uganda

- **Award for the Greatest Investment Catalyst in the World**
  -Go Global Awards in the Rhode Island, USA

- **3rd Most rewarding economy to invest in Africa**
  -Africa risk reward Index 2023

- **Best investment destination** for attracting some of the most significant foreign direct investment (FDI) projects in Africa

-Annual Investment Meeting Awards- Abu Dhabi 2023



- **Top 10 in industrial development** (Africa Development Bank (AfDB), Africa Industrialization Index (2022)

- **Lowest Labour Cost in EAC region**

-Average yearly wage for unskilled production operative, $440

Why Invest In Uganda

- **Large domestic, regional and global markets** (quotas and Tariff free)-(EAC , 300m people), COMESA, (600m people) AFCTA, (China Trade Agreements

- **Repatriation of Profits is allowed**

- **Security of person and property is guaranteed**

UIA
One
Stop Centre for
Investors

- **Offers services -** Applications, businesses registration, licensing, Industrial Park land, Products and Services Certification, Environmental regulations and requirements, Investment after care services

Key Incentives

Agricultural Sector

10 years Tax Holiday for Agro processors operating in industrial park, free zone (export oriented)

Availability of Land

0% import duty on importation of Plant and Machinery for use in Agro Processing.

Almost all agricultural inputs are exempt from import duty and VAT

Manufacturing Sector

10 years income tax holiday for exporters of finished consumer and capital goods (80% of production) outside domestic market. VAT is exempt on raw materials

VAT deferment on plant and machinery at importation

0% import duty on plant and machinery utilized for setting up industry

Human Capital Development

100% tax allowable on training costs and research

Industrial Park Development

10 Year Tax holiday on income derived from letting out facilities of Industrial Park

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Uganda: *Selected* Zones for HIH

Criteria of selection/justification

- High-Moderate poverty: 8.7%-35.9% (UNHS, 2019/20)
- Level of malnutrition and stunting still high-25%-35% Zones are medium priority but with high agricultural potential & proximity to lucrative markets (See map)
- Zones have much milk and maize that is sold in informal markets/Low value addition

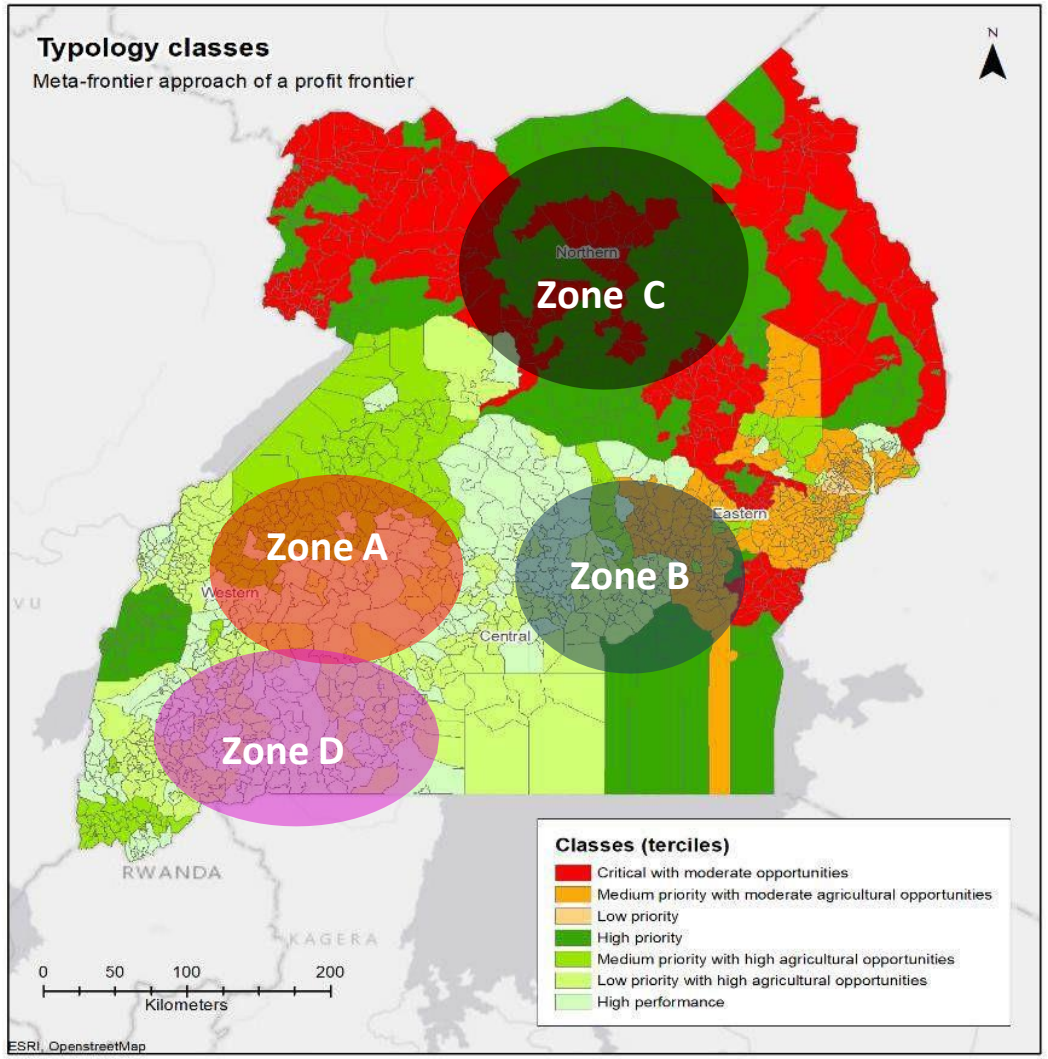
Selected zones(Circled)

Zone A: (Circled Red) –Mid-Western

Zone B: (Circled blue) -Central cattle corridor

Zone C (Circled black) -Northern-Lango & Acholi

Zone D (Circled Pink)-SouthWestern Grass Rangelands-Ankole



Map 1: *Selected 4 zones, FAO,2023*

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Uganda: Investment *Summary & Opportunities*

Key Investment Opportunities

Priority investment Opportunities in 4 zones

- ❑ Dairy/milk processing
- ❑ Animal feed manufacture
- ❑ Foot & Mouth disease vaccine
- ❑ Maize processing

Agriculture and livestock *investment summary*

Total investment target: USD 1.01 Billion

- ❑ Private sector-USD 873.82 million
- ❑ **Public sector- USD 138.6 million**
- ❑ Public sector investments will include; Land, roads, electricity, internet & water infrastructures
- ❑ Catalytic investments
- ❑ Government/Development Partners

Investment Case 1: Dairy/Milk Processing

Cattle population (millions	16.4
Annual milk production (Billion Litres)	5.4
Domestic demand (formal-both processed and unprocessed)	1.85
Exported (only processed)	2.00
Excess milk (informal)	1.55

730 million Litres of raw milk will be processed by the 4 proposed facilities

Investment Outlay $506.62 Million

Private investment-$506.62 Million

Public investments will include; Electricity line extension to zones, Community access roads in 4 zones, Dairy breeds and breeding technologies, extend Water for Dairy Production, extension services to farmers,

OUTCOME

Economic growth, increased exports, poverty reduction and job creation

Beneficiaries

- ❑ 500 direct jobs at factory and milk collection centres
- ❑ 960,000 direct beneficiaries (dairy farmers & farm workers)
- ❑ 15 million indirect beneficiaries-Poor local communities, women and youth, schools

Micro-regions:

- Mid-Western
- Central cattle corridor
- Northern
- Southwestern

Investment Case 1: Four Dairy/Milk Processing Plants

Bottlenecks	Areas of investment	Risks	Mitigation measures
Limited value addition at the zonal level resulting into Low milk farmgate prices	• Four Milk processing plants to add value to milk into: UHT, ,pasteurized milk, yoghurt & milk powder. • Each plant should have a daily processing capacity of 500,000 litres of milk bringing a total annual capacity of 730 Million Litres for the 4 facilities. • The 4 plants requite Private investment of USD 500million	• Disruption of small-scale milk processors and traders • Market Volatility and Demand Fluctuations • Inconsistent supply of 500,000 liters due to factors like droughts, disease outbreaks, or poor transportation infrastructure • High Energy Consumption.	• Capacity building and integrate them into the supply chain of the new plants. • A diverse product portfolio strategy • Improve dairy production through disease and feed management, breeding and transportation infrastructure upgrades • Energy-efficient technologies, and renewable energy such as solar and biomass
lack of proper milk transportation systems affecting the quality milk	• Procure 6 modern milk tanker trucks @20,000L for transport, each USD 76,000 • Private investment of USD 500,000 in milk tanker trucks	• Tankers may not operate at full capacity during off-peak seasons, leading to underutilization and revenue loss • Large milk tankers may not be able to access remote dairy farmers due to poor road infrastructure	• Contracts with dairy producers. Dairy producers will be forced to adopt better intensified approaches to maintain the supply. • Government to invest in improving rural access roads
In adequate milk bulking and cooling facilities resulting into milk losses	• Install additional 100 Milk coolers each with capacity for 3000 Liters of milk and their matching solar power systems. • Private investment of USD 6.4 Million for 100 Milk Collection/ Cooling Centers	• Intermittent electricity • High operational and maintenance costs of milk coolers and their matching solar power systems • milk coolers may not operate at full capacity during off peak season	• Use solar powered system • Cooperatives with a shared operational model contribute to operational costs. • milk aggregation strategy to consolidate milk from multiple suppliers to the cooling centers during off-peak seasons

Investment Case 1: Dairy/Milk Processing

Add value to raw milk by processing into UHT milk, Pasteurized milk and yoghurt or milk powder at 4 processing facilities

Annual Targets:

139 Million liters of UHT milk

146 Million liters of yoghurt

43 Million tons of milk powder

70 Million Liters of pasteurized milk

Profitability indicators	
Total investment requirement	USD 506.62 million
Net Present Value (NPV) per facility	USD 104.57 million
Internal Rate of Return (IRR)	24.53%
Payback period	8 Yrs, 1 month

Environmental Performance Indicators	
Carbon emission balances (t co2-eq) for 10 years	1,500,000
Climate-smart practices	• Efficient waste management by conversion into renewable energy such as biogas • Sustainable Packaging: Opt for eco-friendly packaging materials. • Enhancing overall efficiency in milk processing • Utilize use of solar energy to run the facilities

Investment Case 2: Animal feeds & pastures

Cattle, chicken and pig feeds manufacturing

Cattle feed	(million tonnes)
Annual demand	1.07
Annual supply	0.43
Deficit	0.64
Pastures	
Annual demand	1.20
Annual supply	0.78
Deficit	0.42
Chicken/poultry feed	(million tonnes)
Annual demand	5.47
Annual supply	2.19
Deficit	3.28
Pig feed	(million tonnes)
Annual demand	6.46
Annual supply	3.88
Deficit	2.58

Current situation

Animal feed deficits are **40%-**60% of demand

Investment Outlay $ 204.6 million

OUTCOME

Economic growth, increased feedstock, poverty reduction and job creation

Beneficiaries

- ❑ 432 direct jobs created at facilities
- ❑ 1,200,000 direct beneficiaries: Livestock farmers, farm workers
- ❑ 2,000,000 indirect beneficiaries-Poor local communities, women, men and youth, transporters

Micro-regions:

- Mid-Western
- Central cattle corridor
- Northern
- Southwestern

Investment Case 2: Animal feeds & pastures

Bottlenecks	Areas of investment	Risks	Mitigation measures
Shortage of pastures during the dry season	• Establish 4 Nucleus estates with; ✓ 1 silage bunker (capacity of 122,400 tonnes/year) ✓ a hay ban (capacity of 400,000 tonnes/yr) • Private investment of USD 14 million	• Require significant land, • The demand for silage and hay fluctuate due to changes in livestock populations, climatic conditions, and market dynamics.	• Available government land (in free zones and Ranches) • Diversify product, and explore alternative markets such as exporting or supplying to livestock feed industries.
In adequate animal feed processing plant resulting into inadequate supply of quality animal feeds	Establish 4 animal feed processing facilities in the same Nuclear estate above with; ✓ Dairy meal plant (capacity of 102,820 tonnes/year) ✓ Poultry feeds plant (capacity of 250920tonnes/yr ✓ Pig feeds plant (capacity 263,160 tonnes/yr Private investment of USD 190.4 million in animal feed manufacturing facilities	• High Water and Energy Consumption • Fluctuation of prices of raw materials like maize, soybeans, and other feed ingredients due to market demand, and supply chain disruptions	• Recycling systems, rainwater harvesting, and renewable energy sources like solar or biomass. • Diversified supplier network and engage in contract farming to ensure a steady supply of raw materials

Investment Case 2: Animal feeds & pastures

Reduce the cattle feeds burden and deficit by manufacturing of dairy meal & conserving of pastures & maize into silage & hay

Livestock population

- ❑ 122 million poultry
- ❑ 7.4 million pigs
- ❑ 16.4 million cattle

Annual feed demand in 4 zones

400,00 Tonnes of dairy meal

204,000 Tonnes of hay & silage

1,000,000 Tonnes of Poultry feeds

500,000 Tonnes of Pig feeds

Profitability indicators	
Investment per facility,	USD 51. 2 million
Total investment in 4 facilities	USD 204.6 million
Net Present Value (NPV)	USD 45.6 million
Internal Rate of Return (IRR)	26.71%
Payback period	6yrs 4 months

Environmental Performance Indicators	
Carbon emission balances (t co2-eq)	1,900,000
Climate-smart practices	• Pasture-Based Carbon Sequestration/carbon storage in pastures • Encourage tree planting • Use of biogas

Investment Case 3: Manufacturing of FMD vaccine

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Annual Targets:

30 million dozes/year for cattle

10 million heads of cattle vaccinated

20 million other ruminants (Sheep , pigs and Goats) vaccinated

30M dozes to partially cover domestic demand for a start. Expansion is required to cover the entire domestic demand and regional (EAC etc) demand

Annual demand (Doses)

Cattle alone need **32.8 million doses** per year

Goats, pigs & sheep need **60.8 million doses** per

Profitability indicators	
Total investment	USD 85.42 million
Net Present Value (NPV)	USD 46.8 million
Internal Rate of Return (IRR)	24%
Payback period	3 years, 8 months

Environmental Performance Indicators	
Carbon emission balances (t co2-eq) for 10 years	1,900,000
Climate-smart practices	• Pasture-Based Carbon Sequestration • Encourage tree planting

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Investment Case 3: Manufacturing of FMD vaccine

Bottlenecks	Areas of investment	Risks	Mitigation measures
Inadequate supply & high cost of animal vaccines leading to frequent outbreaks and quarantines	• Establish an FMD vaccine manufacturing and commercialization production line facility with laboratory infrastructure and vaccine cold chain worth USD 85.42 million. • The suggested Invested will be in PPP arrangement where government will provide land and continue investing in research and capacity building through NARO (Approx USD 16M)	• initial investment of USD 85.42 million may pose financial challenges • Market Demand Fluctuations • Diversify the product line to include other vaccines or veterinary products • Hazardous biological waste • Energy Consumption and Carbon Emissions	• feasibility studies, market analyses and a detailed business plan with clear revenue projections, and explore funding opportunities such as partnerships with international organizations, grants, or public-private partnerships • proper disposal methods for biological waste, recycling initiatives • Use of renewable energy sources, such as solar

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Investment Case 3: Manufacturing of FMD vaccine

Current situation

Uganda imports all its FMD vaccines

Uganda has **16.4 million cattle**, **17 million goats**, **7.4 million pigs & 6 million sheep** that require FMD vaccines twice a year (**93.6 million dozes demanded)**

The facility will produce **30 million dozes annually**

Investment Outlay $ 85.42 Million

Private investment $85.42 Million

OUTCOME

Economic growth, increased beef and milk quality for export, reduced cattle mortalities, reduced quarantines, poverty reduction & job creation

Beneficiaries

- 250 factory and vaccine supply chain jobs created
- 2.5 million direct beneficiaries, dairy farmers and cattle/milk traders
- 500,000 indirect beneficiaries-Local communities benefiting from dairy and beef-related businesses

Micro-regions:

Central Cattle corridor
Mid-Western
South Western
Northern Uganda

Investment Case 4: Maize processing

4.5 million tons

Average tons of maize grain produced annually (2018-2022)

Uganda's annual demand of proposed products (2023)

- 700 tonnes of Cornflakes
- 3,420 tonnes of Maize starch
- 18 tonnes of Maize oil

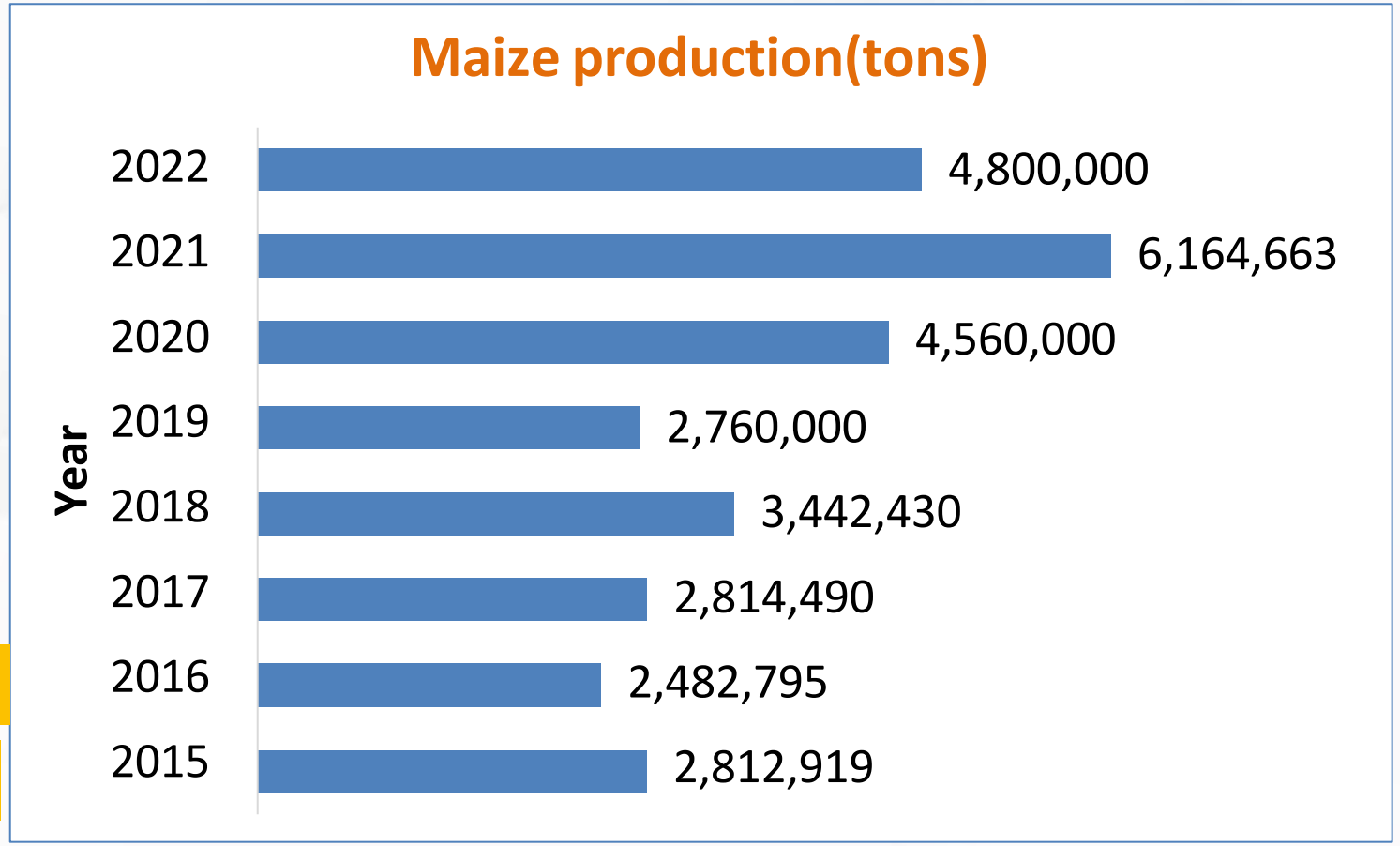

Figure 1:
Uganda maize production, FAO, 2023

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Investment Case 4: Maize processing

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Bottlenecks	Areas of investment	Risks	Mitigation measures
Below standard milling machines leading to low quality products	• Invest in modern machinery for maize processing • Private investment for 4 zonal modern maize processing facilities, USD 19.3 Million	• High investment costs with high energy consumption	• Explore public-private partnerships • Use of renewable energy sources, such as solar
Limited Value-Added Products with low product diversity	• Invest in producing three high value maize products; ✓ Cornflakes ✓ Maize oil ✓ Maize starch	• Low domestic demand	• Focus more on the export market
Poor Post-Harvest Handling	• Investment in training and technology for value chain actors	• Resistance to Change and adopt	• **Government to invest in training and** Implementation of stringent quality control measure through the Food and Agriculture Regulatory Authority

Investment Case 4: Maize processing

Increase value on maize through production of high value products Annual Target for Cornflakes, Maize starch, Maize oil:

28,800 **Tons of maize grain**

8,550 **Tons of cornflakes**

144.0 **Litres of maize oil**

4,309 **Tons of maize starch**

Current situation

- ❑ All high-value maize products are imported
- ❑ High post-harvest losses
- ❑ Low value for farmers with high price fluctuations

Outcome & benefits

- ❑ Economic growth, increased maize value and quality, increased exports, rural development and job creation
- ❑ 400 jobs created at the 4 facilities
- ❑ 100,000 direct beneficiaries supplying maize
- ❑ 250,000 indirect beneficiaries-Poor local communities, women and youth

Investment Outlay $ 77.2 Million for 4 facilities

Public investment will include; roads, electricity & water

Investment Case 4: Maize processing

Investment case 8: Maize storage and Value addition/ processing	
Target products	Cornflakes, Maize starch, Maize oil
Installed capacity	*8 tonnes/Hr*
Average expected annual revenues (USD, million)	15.8
Total required investment (USD, million)	19.3
Net Present Value (NPV) (USD, million)	6.56
Internal Rate of Return (IRR, %0	23.47%
Return On Investment after tax (ROI, %)	12.56%
Payback period (years, months)	5yrs 2 months

Investment plan for Uganda

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969.8 Million USD
Investment cost

22.8%
Average IRR (%)

9.16 Millions
Total Beneficiaries

4.91 Millions
Direct Beneficiaries

4.25 Millions
Indirect Beneficiaries

6.5 Millions
tCO2-e sequestrated

Investment case
4 Dairy Processing facilities

Total Investment:
541.2 Million USD

Investment Gap:
506.6 Million USD

IRR:
24.53%

NPV :
104.57 Million USD

Direct beneficiaries
960,000

Indirect beneficiaries:
1,500,000

Per capita income increase:
700 USD (64%)

Total Carbon Emissions
1.5 Million tCO –e 2

Investment case
4 Animal feed facilities

Total Investment:
230.075 Million USD

Investment Gap
204.6 Million USD

IRR:
26.71%

NPV :
45.6 Million USD

Direct beneficiaries
1.200,000

Indirect beneficiaries:
2,000,000

Per capita income increase:
677 USD (62%)

Total Carbon Emissions
1.9 Million tCO –e 2

Investment case
4 maize processing facilities

Total Investment:
104.5 Million USD

Investment Gap
77.2 Million USD

IRR:
23.47%

NPV :
6.6 Million USD

Direct beneficiaries
500,000

Indirect beneficiaries:
250,000

Per capita income increase:
286 USD (26%)

Total Carbon Emissions
1.2 Million tCO -e2

Investment case
1 FMD Vaccine facility

Total Investment:
93.0 Million USD

Investment Gap
85.4 Million USD

IRR:
24%

NPV :
46.8 Million USD

Direct beneficiaries
2,500,000

Indirect beneficiaries:
500,000

Per capita income increase
300 USD (27%)

Total Carbon Emissions
1.9 Million tCO -e2

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