Food and Agriculture Organization of the United Nations

Investment Opportunities in Rwanda

Hand-in-Hand Initiative

HiH Investment Forum | **Rome** | 15 - 17 Oct '24

RWANDA HIH Implementation progress

US$ 570.6 million

Rome Investment Forum October 2023

Rwanda HIH Investment Forum Potential funding opportunities April 2024

Value chain stakeholder meetings Tea, livestock and Irish potato

Rwanda legacy Program September 6th, 2024

Institutions engaged in discussions on HIH

- European Investment Bank
- World Bank
- IFAD
- African Development Bank
- Mastercard Foundation
- IFC
- Rockfeller Foundation
- Agence Francaise de development
- Rwanda development Bank and Other Commercial Banks

US$ 784.8million
(+3 more value chains)

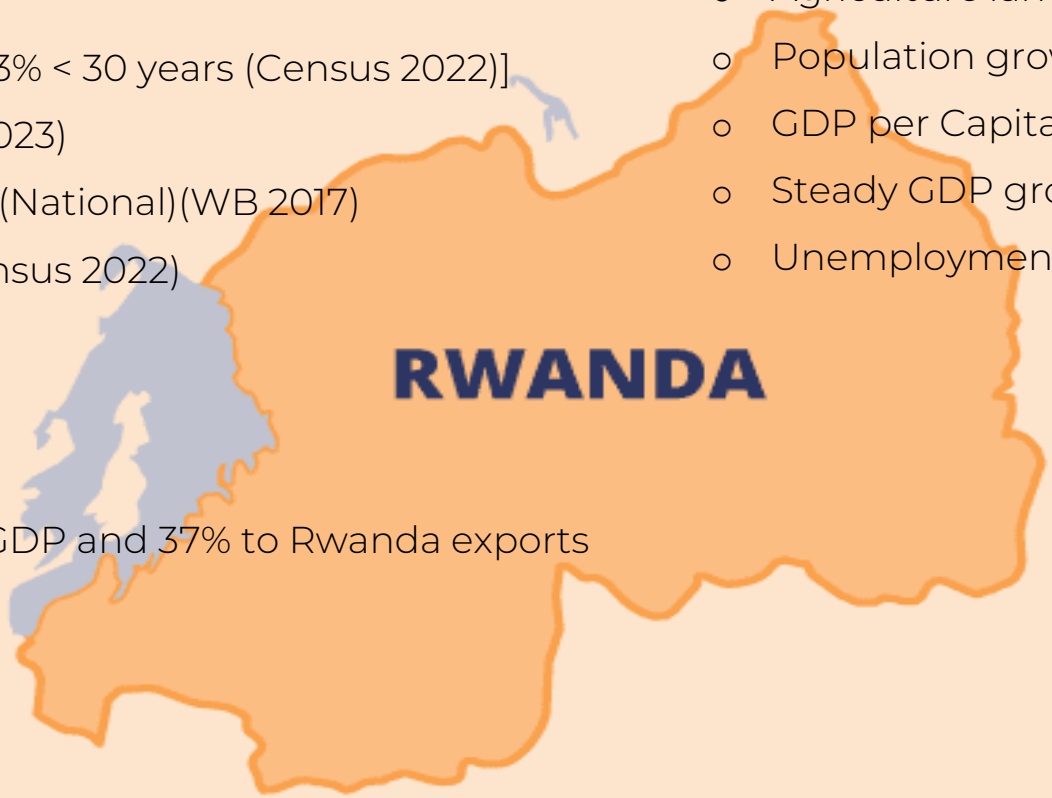
Areas of Intervention interesting private investors

- Enhancing the private sector's access to long- term loans
- Agriculture de-risking facility
- Funding private sector's investment through Grant and Loans
- Supporting youth and women -owned SMES through direct financing, credit guarantee and agriculture insurance.
- Financing private sector agribusiness through bankable projects in job creation, climate resilience and food Security.
- Commercial Banks Manage long-term patient funding at 8-12% interest for agriculture projects with a grace period,

RWANDA AT GLANCE

- Land area: 26,338 km^2
- Population: 13.246 million, [65.3% < 30 years (Census 2022)]
- GDP: US$14.1 bn (WB, 2023)
- Poverty : 52% (Int'l) & 38.2% (National)(WB 2017)
- Population density: 553 ha/km^2 (census 2022)

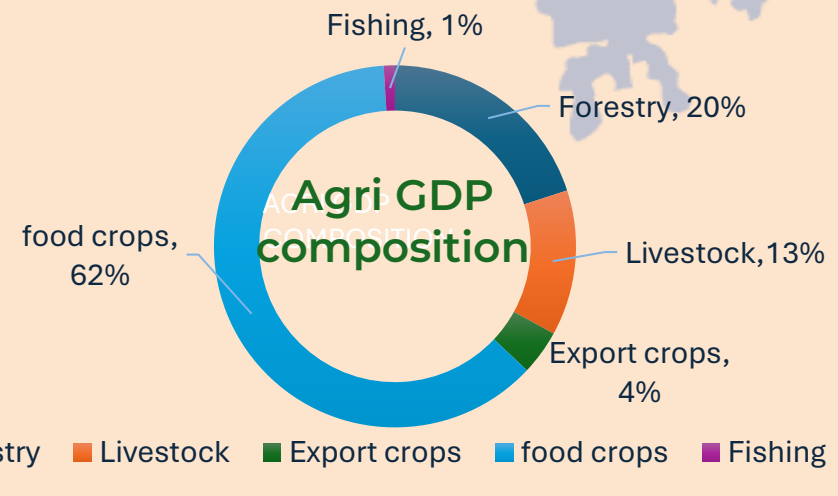
- Agriculture land: 14,500 km^2 (55%)
- Population growth: 2.3%
- GDP per Capita: US$ 1,000.4 (WB, 2023)
- Steady GDP growth standing at 8.3% in 2023
- Unemployment rate: 14.9% (WB, 2023)



AGRI FOOD SYSTEMS

- Agriculture contributes to 27% of GDP and 37% to Rwanda exports
- Human capital index: 0.38%
- Food insecure : 20.4%

- Vision 2050: Rwanda aims to reach upper-middle-income status by 2035 and high income by 2050
- This will require at least an annual GDP growth rate of 12% between 2024-2035 and 10% between 2035-



Enabling investment climate

Hand-in-Hand Initiative

WHY INVEST IN RWANDA

- Rwanda is renowned for attractive fiscal and non-fiscal incentives
- Government effectiveness ranked 4th in Africa (WB, 2022)
- Sustained high economic growth (8-9.7% Minecofin 2024
- Ranked Among 10 safest countries in Africa (*Africa: Crime Index by Country 2024)*
- Untapped investment opportunities in Agriculture
- Temperate climate good for quality tea, and hoticulture production

- **EAC** : East African Community
- **COMESA** : Common Market for Eastern and Southern Africa
- **ACFTA** : African Continental Free Trade Agreement

Enabling Environment

Investment law **(No.006/2021 of 05 February 2021)** provides financial and Non financial incentives

Business incentives

- **Preferential corporate income tax (0%,-15%)**
- **Preferential income tax for export investments: 15%**
- **Corporate income tax holiday up to 7 years**

Other

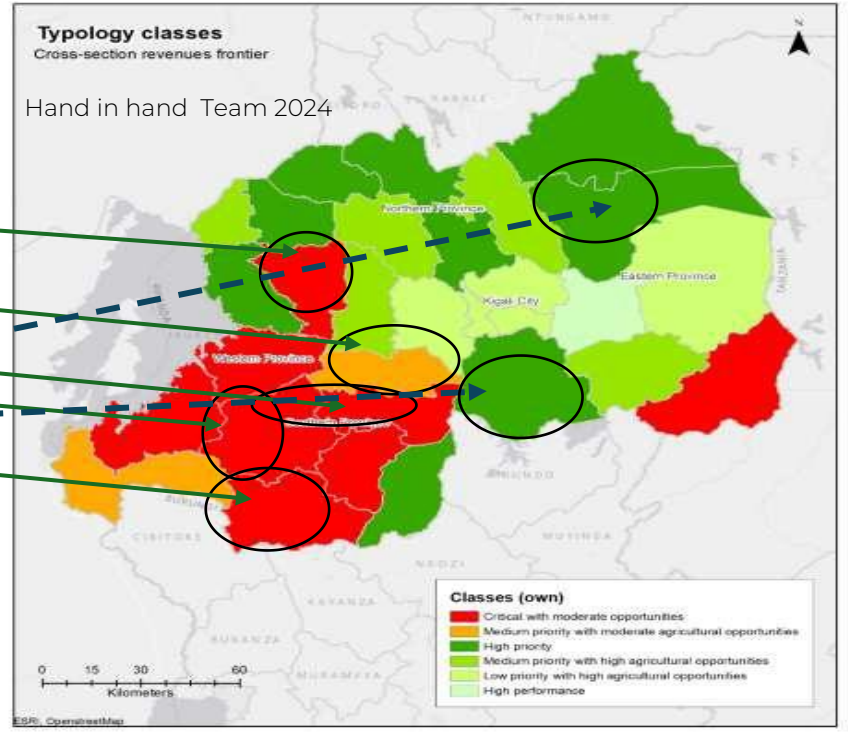
- **Derisking facility**
- **Credit guaranty**
- **National crop and animal insurance**

Investment Opportunities in HIH

Selected districts

Selected districts (in Red)

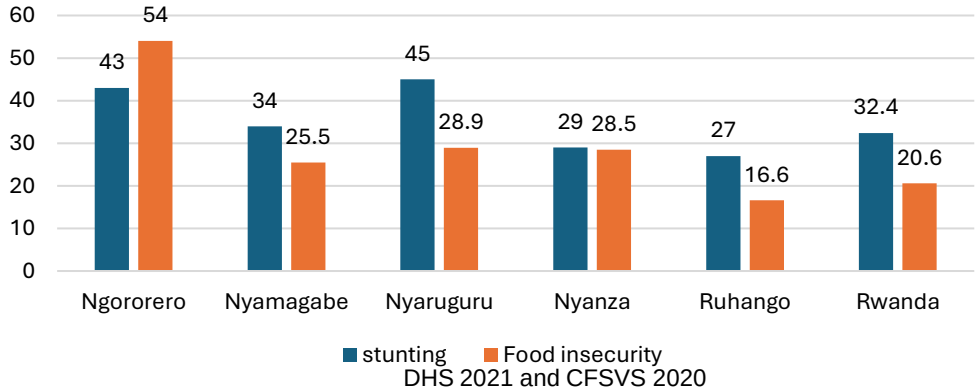
- Western Province: Ngororero
- Southern Province: Ruhango
  - Nyanza
  - Nyamagabe
  - Nyaruguru
- Eastern Province Bugesera
  - Gatsibo



Criteria for selection

- Government commitment to lift poor districts from poverty
- High potential for beef and Horticulture production
- Governement Earmarked land for private investment

Districts with
Food insecurity and high stunting rates



DHS 2021 and CFSVS 2020

Selected Value chains

5 Value chains

- Tea
- Pig & Poultry
- Beef
- Irish potato
- Chili
- Avocado

Current production and PSTA5 targets 2029

Value Chain	Production 2023	Production 2029	increase %
Irish Potato (MT)	865,013	1,498,545	**73**
Tea Value (MT)	38,386	58,600	**52**
Beef Meat (MT)	66,268	86,893	**31**
Eggs (MT)	17,344	21,680	**25**
Avocado (MT)	3760	14,975	**1,058**
Chili (MT)	6,945	31,464	**353**

Criteria of Value chain selection

- PSTA: Strategic Plan for agriculture transformation

- Contribution to increasing smallholder household income
- Suitability to the regions selected (altitude between 1619 and 2271 m)
- Existence of market in the country and abroad (ASIA, EUROPE, DRC, BURUNDI, CENTRAL AFRICA.....)
- Contribution to food security and nutrition (reduce stunting)
- Contribution to export
- Contribution to reaching ambitious PSTA5 targets

INVESTMENT CASE 1: Tea production and processing

Export market overview

Total Export Value: $82M.

- 71.3% through MOMBASA auction
- 28.6% via direct sales.
- 0.1% on local market.

- **15th largest tea exporter globally**
- **6th most exported product in Rwanda**

Top Export Destinations:

- Pakistan US$ 31.4M
- United Kingdom: US$20.2M
- Sudan: US$5.54M Kazakhstan: $4.98M Egypt: US$4.85M

Market growth & projections

Production Growth:

- From 5,910 MT of tea in 1980 to 38,386 MT in 2022
- Projected Market Growth: 8.7% by 2029

Key Strategies for Growth:

- Branding Rwanda Tea for more profitable direct sales
- Expansion of Export Destinations
- Import Substitution: $343K

Production & capacity

Current Production Figures

- Total Annual Production: 25,000 MT of dry tea in 2022
- 43,000 organized tea farmers
- 18 private-owned operational tea factories.

Expansion & Innovation

- Expansion: 17,000 ha
- Yield Improvement: From 6MT/Ha to 8MT/ha
- Quality Seedling Production and new high yielding clones
- Product diversification targeting national and international market

Beneficiaries & outcomes

Beneficiaries

- **Direct**: 85,000 (including out growers and value chain actors).
- **Indirect**: 195,831.

Outcome

Social-Economic:

- Trade balance: 126% increase in agri-export revenues expected by 2029;
- Increased income to farmer: 50% of export price price goes to farmer
- Job creation: 61% increase in off farm jobs by 2029 (PSTA5)

Environmental impact: Valorisation of unexploted acidic land and Reduction of environmental degradation and improved soil cover.

… Investment case 1: Tea production and processing …

A. Bottlenecks

- Limited optimisation of high potential land for tea production (17,000ha available)
- Low tea leaves production yield (6 t/ha) compared to the global average (8 t/ha)
- Shortage of tea seedlings/ High cost of tea fertilisers
- limited value addition : 98.3% tea is exported in raw form (black tea)
  Insufficient processing capacity to absorb projected increase of 2 T/ha per year & to produce specialised tea types for domestic and international markets
- Bad roads in tea production areas

B. Proposed investments: US$ 289 million

- Increase in Tea production by expanding 17,000 ha through improved use of out growers' scheme for 85,000 farmers. **: US$ 36 million**
- Research and innovation centre on improved tea production (yield, improved varieties for consumer preferences) – projected yield increase from 6T/ha to 8T/ha) **US$ 20 million**
- Invest in 300 Million high quality seedlings production: **US$ 20 million**
- Diversify products for local and international market. Accelerate the organic certification process
  Establish 1 tea factory in Nyamagabe with high efficiency and specialised tea processing capacity: **US$ 50 million**
- Construction of 1,230 km of feeder roads: **US$163M**

C. Risks and threats

- Climate change in terms of rainfall, temperature rise and pests
- Small land holding (less than 0.5 ha /HH)
- Price fluctuation on international market
- Use of fire wood in tea factories /deforestation

D. Mitigation

- Research on new suitable clones, New tea management practices
- Establishment of Agrihubs for commercial crops (consolidated tea plantations)
- Search for new direct markets that offer better premiums

Reforestation and promotion of environment friendly technologies i.e. new tea drying technologies. Use of certified forests.

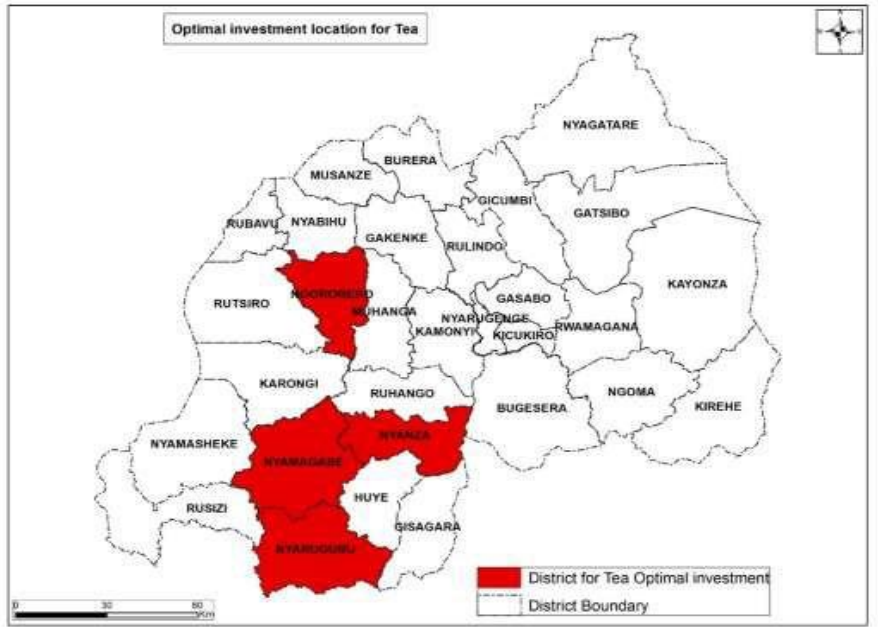
… Investment case 1: Tea production and processing …

Expand tea production & factory & feeder roads

Profitability Indicators	
Total Investment	US$ 289 Million
Net Present Value (NPV)	US$ 129.7 Million
Internal Rate of Return (IRR)	22.3%

Environmental and socio-economic Performance Indicators	
Environment degradation reduced	Perennial crop, soil conservation
Better forest management (use certified forests, the government reforestation programme)	Source firewood from certified forests. adoption of new technologies
Carbon Emissions	3.7 Kg CO2 e/Kg
Use of unexploited agriculture areas	Around 17,000 Ha
Employment % increased	From 40% to 60%
Per capita income increase	US$1,065 in 2029

Areas with investment opportunities



Government contribution

- Enabling environment (secondary roads, reforestation, export tax exemption, land mapping & leasing
- Social protection (health insurance, cash & food for work)
- Feeder roads

INVESTMENT CASE 2: Small livestock production

Export market overview

Eggs Export in 2023: US$ 1,578,598
Chicken meat Export in 2022::US$3.53M

Pork meat Export in 2023: US$ 9.953,000
Live pig Export in 2022: US$ 89,032

Top Export Destination:

- DR COngo Market account for 90% for both eggs and pork meat

Market growth & projections

- Poultry population trend showed slight increase 5.2 million in 2017 to 5.5. million in 2021,
- Pig population increased from 1.4 Million in 2018 to 1.5 Million in 2021 (PSTA4)
- Egg per capita Consumption; from 1.4kg (2023) to 2.3kg (2029)

Production & capacity

Current Production and target for 2029

- Egg: From 17,334 MT to 21,680MT
- Pork meat: from 25,839MT to 29,934 MT

Infrastructure:

- Hatcheries: 3 large layer hatcheries
- Four poultry model farms under development

Expansion & Innovation

- New hatcheries to be established in the selected districts
- New breeds in pigs and poultry
- Zipline drones for timely swine semen distribution
- New feed technology: hydroponic wheat fodder, insect farming for protein production

Beneficiaries & outcomes

Beneficiaries

- Direct:
- 123,000 & 69,953 pig & poultry farmers

- Indirect:
- 339,304 & 311,365 poor local communities,-

Outcome

Economic

- Poverty reduction/increased Household's income
- Contribution to trade balance

Environment

- Availability of organic manure for agriculture.
- Nutrient Recycling.

Food security

- Reduction of stunting with one egg per day per child program
- Improved diet

INVESTMENT CASE 2: Small livestock production

A. Bottlenecks

- Unavailability of one day old chicks. Dependence on imports; No layer hatchery in HiH districts
- Sow heat is short, thus requiring timely insemination
- Limited access to animal health extension services including vaccines, medical products
- High cost of animal feeds and competition with human consumption
- Limited processing facilities (slaughter houses)

B. Proposed investments: US$ 169.8M

- Establish Layer chicken hatchery and a genetic improvement farm : **US$ 59.9 million**
- Establish 1 Animal Hub (model) farm for poultry and pig production each, providing basic animal production services including swine sperm delivery by drones, animal health including access to vaccines, capacity support: **US$ 51.1 million**
- Animal Feed production facility with innovative raw materials and poultry & pig feed storage **US $39.8 M**
- Construct and equip at least 10 slaughter houses: **US$19 million**

C. Risks and threats

- Increase in GHG emissions (livestock is the first contributor to GHG emissions from Agriculture)
- Production loss due to diseases

D. Mitigation

- Promote climate smart animal feed (e.g. insects, Hydroponic wheat fodder etc...)
- Feed efficiency by breeding pigs that grow faster and produce lower emissions
- Optimize feed intake and ratio according to animal's age, weight and breed.
- Make veterinary products available in all districts
- Strengthen the skills of workers in small stock health management

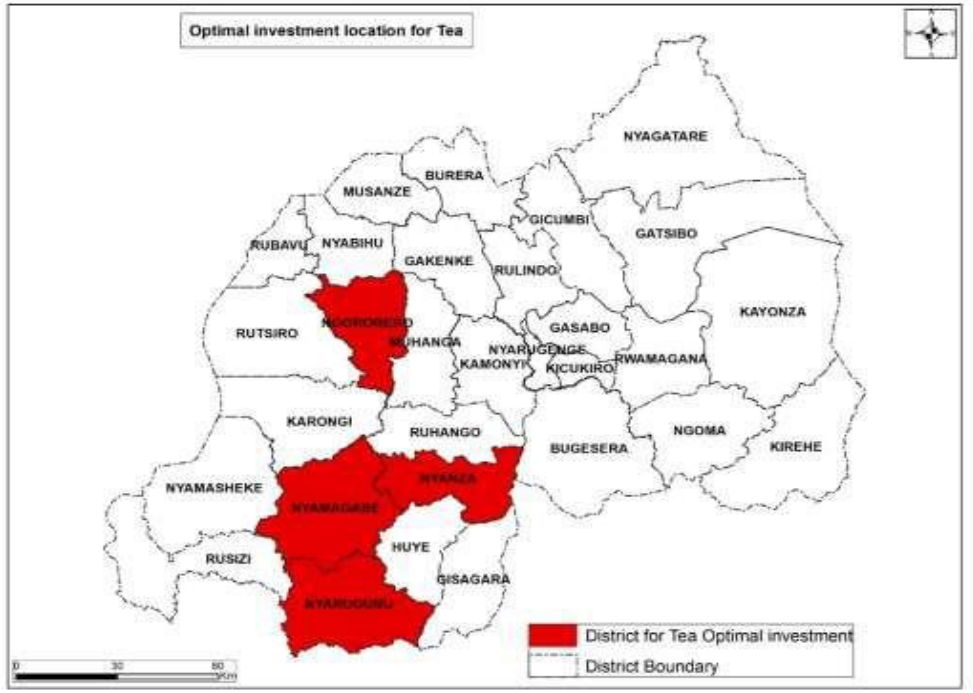
… INVESTMENT CASE 2: Small livestock production …

Profitability indicators	
Total Investment pigs and poultry	$169.8 Million
Net Present Value (NPV)	$126.9 Million
Internal Rate of Return (IRR)	27%

Type of Livestock	kg CO2eq / kg of proteins
Emission intensity (Chicken)	18.5
Emission intensity (Pigs)	45

Socio-Economic Performance Indicators	
Poverty (38.2%) & stunting (32.5%) reduced	Reduced to 25% and 15%, respectively
Increased income per capita	US$ 1,040
Increase per capita consumption egg	1.4 Kg to 2.3Kg

Areas with investment opportunities



Government contribution

- Business facilitation
- Social Protection
- Animal health protection/Vaccines and technicians

INVESTMENT CASE 3: Irish potato

Export market overview

Export Market

Limited export due to high domestic demand:

Potatto export stood at 451,MT (Naeb report May 2023

Major export destinations:

- Democratic Republic of Congo (DRC)
- Burundi
- Kenya

Market growth & projections

- Growing market for early generation seeds (mini-tubers)
- Potatoes represent 3.9% of total cultivated land and 9.3% of national agricultural production (NISR 2022).
- Average consumption: 145 kg per capita per year. and 42% of potato production is sold on the local market.

Production & capacity

Production

- Total production area (across three seasons): 114,324 ha in year 2023.
- 2023 production : 865,013 MT expected to increase by 73.2% in 2029
- 2023 average yield is 7.64 MT/ha, projected to reach 14.5 MT/ha by 2029.

Infrastructure & Operations.

- RAB has 13 conventional and one aeroponic screenhouses;
- EGSP ltd has 23 screenhouses.
- SPF-Ikigega has one megapony of 540,000 minitubers per season

Expansion and Innovation

- New high yielding and disease tolerant varieties
- Expansion in minituber production to meet local and regional demand
- Potato storage technologies to reduce storage losses
- New potato products available on the market

Beneficiaries & Outcomes

Beneficiaries

- Direct: 41,772 potato producers, out growers, processors, etc)
- Indirect: 245,341 + potato value chain actors

Outcome

Economic

Increased potato yields - Increased income to farmers

Food Security

Improved KCAL and protein intake as potato represent 6% of total Kcal production and 4.5 % of total proteins produced

… INVESTMENT CASE 3: Irish potato production …

A. Bottlenecks

- Current production,not meeting the demand
- Limited quality, quantity and timely access of early generation potato seed
- Insufficient seed production infrastructure– screenhouses
- Lack of sufficient standard potato storage facilities
- Limited local value addition

B. Proposed investments

- Investment in early generation seed production **$20 M**
- Build a new tissue culture laboratory and a hydroponic screenhouse of 550,000 Mini-tubers per season **US$30m**
- Establish improved potato storage facilities (200 Tonnes) **US$ 9.6 million**
- Establish a potato processing plant to process 10 T/day into chips and potato flour: **US$ 4.2million**

C. Risks and threats

- Overuse of fertilizers and pesticides affecting the environment
- High incidence of pests and diseases
- Land scarcity
- Climate change

D. Mitigation

- Strong extension on production best practices
- Development of new pest and disease resistant varieties
- Establishment of Agrihubs for potato in selected districts
- Production of new varieties suitable to different environments

… Investment case 3: Irish Potato production …

Profitability Indicators

Total Investment	$ 63.8 Million
Net Present Value (NPV)	$ 15.9 Million
Internal Rate of Return (IRR)	29%

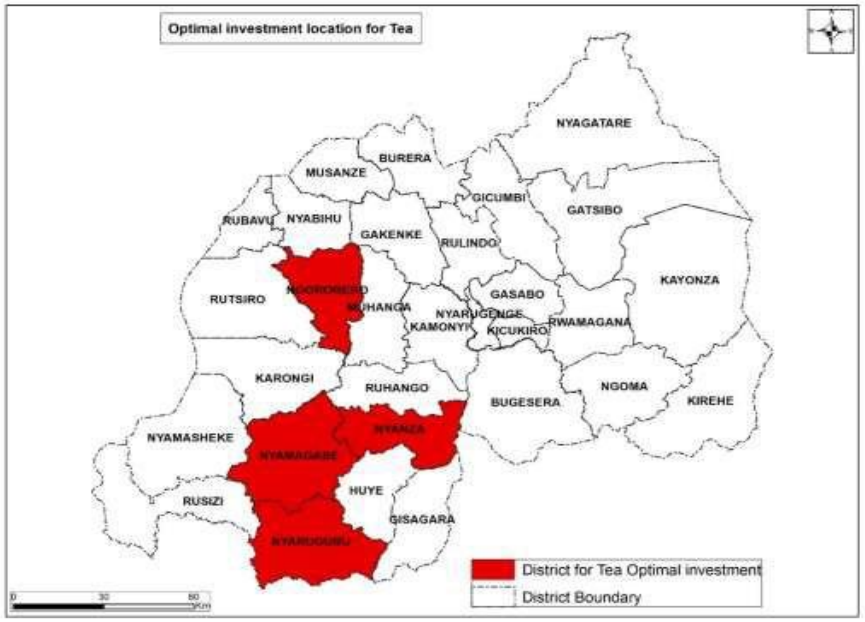
Environmental Performance Indicators

Use of sand vs soil sterilization	300,000 cubic meter of wood saved
Use of hydroponics	Reduced pests and diseases
Carbon Emissions	0.31 Kg CO2 e/Kg potato
Climate smart practices	Efficient use of fertilisers, pest and disease resistant varieties

Socio-Economic Performance Indicators

Potato production	increased
Increased use of improved potato seed	2.95% to 20%
Per capita income increase	US$ 569.7

Areas with investment opportunities



Government contribution

- Tax exemption of processing machinery;
- Subsidies for agricultue insurance
- Subsidies of fertilizers “ Nkunganire”

Other emerging opportunities

INVESTMENT CASE 4: Avocado and CHILI

Export market overview

Avocado: During year 2022/2023, Avocado export stood at 3,060MT with a value of US$ 6,038,894 (NAEB Statistic report)

Chili: During year 2022/ 2023 Chili export stood at 2,059MT with a value of US$6,095,189 (NAEB Statistic report)

Top Export Destinations Avocado:
Dubai:95%
Quatar and Soudi Arabia.

Top Export Destinations Chili
UK, Germany, Spain, China. and India

Market growth & projections

- **Avocado** export to increase from US$ 6,342,472 (2024) to US$ 12,964,506 in 2029 (PSTA5)
- **Chili** export to increase from US$ 6,080,949 (2024) to US$ 48,135,192 in 2029 (PSTA5)

Key Strategies for Growth:

- Development of Gabiro and Gako Agrihubs for large scale investment
- Increasing the skills of producers and exporters to meet the required standards

Production & capacity

Projected Production

- Avocado: from 3,765MT to 14,975MT in 2029. (PSTA 5)
- Chili: from 6,945 MT to 31,464 MT in 2029. (PSTA 5).

Expansion & Innovation

- Expansion to new avocado and chili plantation areas.
- Quality Seedling Production and development of new varieties
- Reduce transport cost using sea transportation for avocado
- Promoting the chili production in screen houses
- Chili and avovado field certification
- Increase chili Value addition for product diversification

Beneficiaries & outcomes

Beneficiaries

- Direct:
- 37,190 for avocado (including producers, processors and exporters
- Indirect:
- 87,880

Outcome

- Social-Economic: Trade balance: 126% increase in agri-export revenues expected by 2029; increased income to farmer; Job creation: 61% increase in off farm jobs by 2029 (PSTA5)
- Environmental impact: Avocado plantations will have a positive impact on the environement. Reduction of emissions from Agriculture

... INVESTMENT CASE 4: Avocado and Chili ...

A. Bottlenecks

- limited production not meeting the current market potential in Asia, US and EU.
- Unavailability of quality seedlings and absence of seedling certification system.
- Limited export capacity to meet the growing demand
- Limited local value addition in Chili for product diversification..

B. Proposed investments: US$222.3million

- Investment in avocado production (310 ha by 2029 : **$8.5million**
- Investment in Chili Production (1200 ha) by 2029) : **US$45,3million**
- Investment in Chili export (17,227MT by 2028) : **US$72 million**
- Investment in avocado export (12,938MT by 2028) : **US$32 million**
- Investement in chili processing, :**US$64.5million**

C. Risks and threats

- Stringent export requirements in some countries.
- Land scarcity
- Climate change
- Pest and disease particularly the chili virus
- Long period before effective production for avocado

D. Mitigation

- Capacity building of exporters
- Production in orchards on consolidated land and Gabiro Agrihub
- Stengthen pest monitoring and control of restricted diseases to avoid rejections at export.
- Promote flexible financing mechanisms taking in consideration production cycles.(paying at harvest)

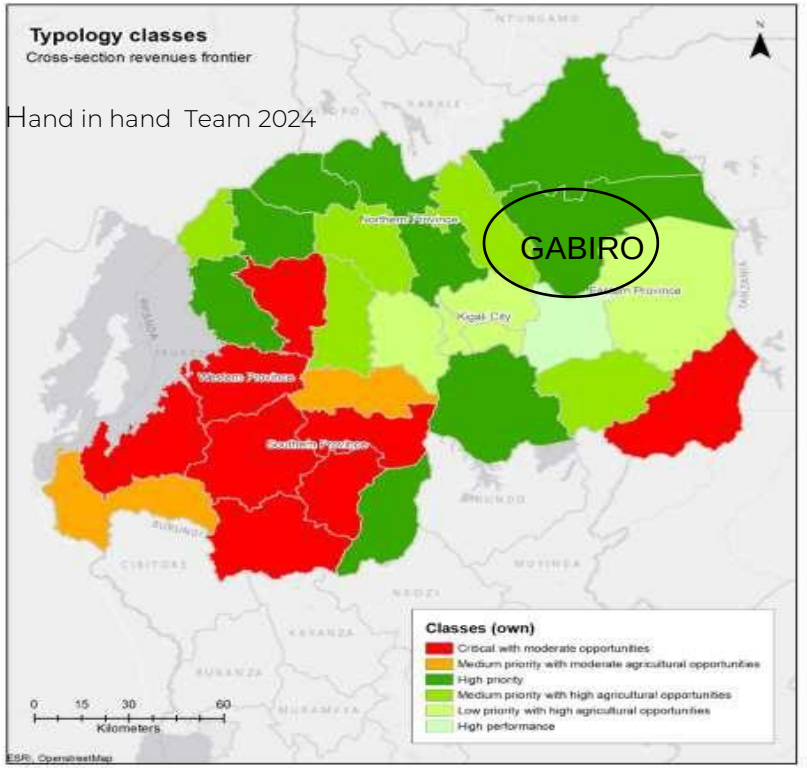
INVESTMENT CASE 4: Avocado and Chili

Profitability indicators		
Total Investmentin in production and export	**AVOCADO** $40.5Million	**CHILI** US$181.8 Million
Net Present Value (NPV) (50ha) Net present value export	US$3.4million US$1,2million	US$5.4 million US$1.08 million
Average Internal Rate of Return (IRR)	19% (NAEB)	18% (NAEB)

Environmental Performance Indicators	
increase in perenial crops	310 ha ha of avocado orchards
Reduced soil erosion	
GGH sequestration	
Climate smart practices	Green houses , mulching avocado plantation and irrigation

Socio-Economic Performance Indicators
Poverty reduction by income from avocado and chili sales
New jobs resulting from the avocado and chili value chains from plantation to export
Improved nutrition due to avocado Average per capita increase US$ 850

Areas with investment opportunities



Government contribution

- Basic infrastructures in Gabiro Agrihubs
- Incentives for exports

INVESTMENT CASE 5: BEEF

Export market overview

- Beef Meat export increased by 59% from U$8.8 million in 2022 to US$22.3 million in 2023 **(NAEB statistic report 2023)**

Potential market opportunities

- The Gulf region (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates);
- Africa regional markets (e.g. COMESA countries)

Market growth & projections

- Beef Meat export to increase from US$ 24m to US$ 35m in 2029 (8% increase per year.)
- Per capita meat consumption to increase from 14.2kg/person/ year to 20.8 Kg/person/year in 2029.

Key Strategies for Growth:

- GAKO Agrihub development (6000ha) open for new investments
- Governement has provided basic infrastructure. and is now calling for private investors.
- Improving animal feeding
- Strengthening animal health control to make Rwanda free from FMD.
- Developement of Gako beef meat Brand

Production & capacity

Current Production Figures

- Beef meat production from 66,268MT to 86,853 MT in 2029. (PSTA 5)
- **6,493** cattles are on Gako farm for fattening target is 14,500
- Gako beef production area: 6,000 ha

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Expansion & Innovation

- Using Artificial insemination and embrio tranfer technology
- Increase the production of quality feeds
- Processing cattle subproducts (hides)
- Establish modern slaughter house
- Capacity building in slauthering to improve meat quality

Beneficiaries & outcomes

Beneficiaries

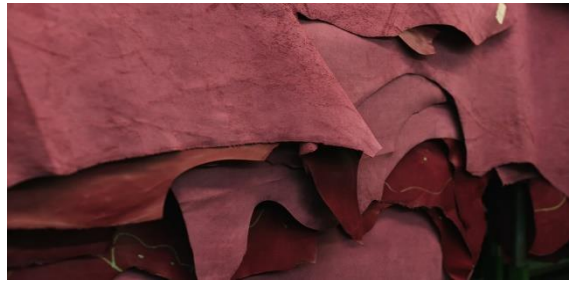
- Direct: 5000 (including producers, processors and exporters)
- Indirect: 35,000

Outcome

- Social-Economic: Trade balance: 126% increase in agri-export revenues expected by 2029; increased income to farmer; Job creation: 61% increase in off farm jobs by 2029 (PSTA5)

Gako Meat investment opportunities

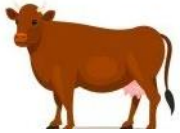
Investment Area	Description
Farm 	• Cattle restocking a total of 14,849 cows for breeding • 6,500 beef cattle to be added • Estimated investment: $6.8M
Feedlot 	• Cattle to be fattened per year: 56,154 • Estimated investment: $2.5M
Feed Mill 	• Proposed capacity: • 6 tons of feeds/hour • Raw materials: Sourced from Gako and out-growers • Estimated investment: $10M

Investment Area	Description
Slaughtering houses 	• Proposed capacity: 86,400 cattle/year (300 cattle/day) • Estimated Investment: $14.8M
Tannery 	• Initially process hides up to wetblue • Highly linked with planned Bugesera Tannery Park • Potential for export • Estimated investment: $6M
Rendering 	• Processing of the remains into animal feeds • Estimated investment: $4.5M

Investment case 5: BEEF

A. Bottlenecks

Limited livestock population and low yield breeds.

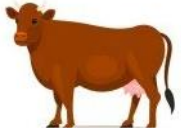


Live animal export is dominant

High cost of animal feeds

Limited financing of the planned business lines

B. Proposed investments: US$ 40.1 million



Gako farm Cattle restocking **US$ 6.8 million**
Gako farm cattle fattening **US$ 2.5 million**

Invest in modern slauther house **US$14.8 million**
Invest in Hides and skin processing : **US$6 million**

Invest if animal feed mill: **US$ 10 million**

Incentives to investors **(RDB)**

C. Risks and threats

- Rwanda not yet recognized by OIE as free of Foot Mouth Disease.
- Small land holding (less than 0.5 ha /HH)
- Gas emissions
- High Transport cost (landlocked country)

D. Mitigation

- Strengthening animal health monitoring and control
- Development of Gabiro Agrihub of about new 5,000ha
- Improving animal feeding and use of high performant breeds

… Investment case 5: BEEF …

Profitability indicators

Total Investment beef meat production and export	US$ 40.1 Million
Net Present Value (NPV)	US$141 Million
Internal Rate of Return (IRR)	22%

Environmental Performance Indicators

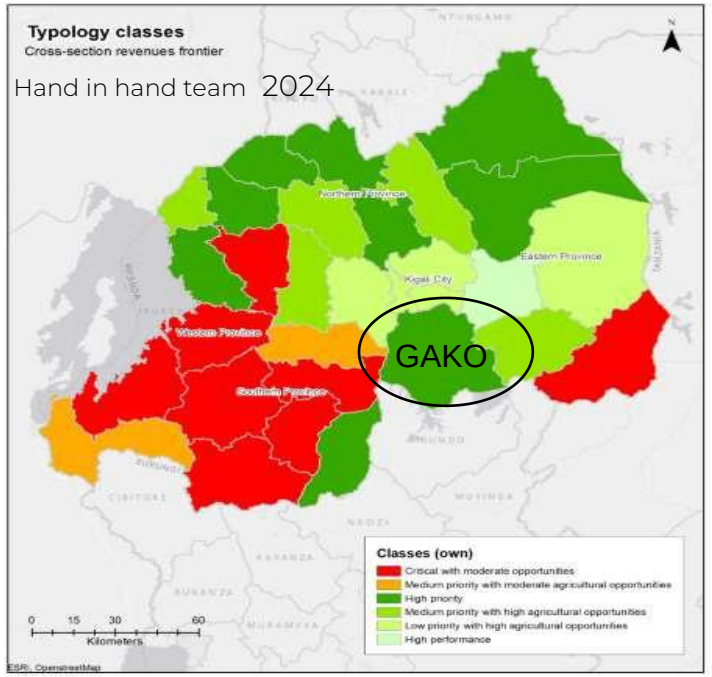
Reduced emission intensity (Beef) through improved feeds and high performant breeds.

Socio-Economic Performance Indicators

Poverty reduction by income from different jobs generated by the project

New jobs resulting from the beef value chain

Areas with BEEF investment opportunities



Government contribution

- Basic Infrastructure in Gabiro Agrihub
- Incentives for exports

https://rdb.rw/files/the-rwanda-opportunities.pdf

Rwanda Investment Plan Summary

Total investment: US$785M - GOR: US$118M - Private : US$667.08	Overall average IRR: 26%	Direct beneficiaries 361,915 people	Indirect beneficiaries 1,214,721 people	Income increase per capita: US$882.8	Emissions reduction/year

01 Tea production

Cost (US$)
289 M

NPV: $129.7 M

IRR : 22.3%

Sustainability benefits

- ✓ **Direct & indirect beneficiaries**
  85,000 & 195,831
- ✓ **Income increase per capita**
  US$1,065

Emission reduction

02 Small livestock production

Cost (US$): 169.8M

NPV : $126.9 M

IRR : 27%

Sustainability benefits

- ✓ **Direct & indirect**
- ✓ **beneficiaries:**
  192,953 & 650,669
- ✓ **Income increase per capita:**
  US$1,040

Emission reduction

03 Irish Potato production

Cost (US$)
63.8 M

NPV $15.9 M

IRR: 29%

Sustainability benefits

- ✓ **Direct & indirect beneficiaries:**
  41,772 & 245,341
- ✓ **Income increase per capita:**
  US$569.7

Emission reduction

04 Avocado and Chili production

Cost (US$) 222.3M

NPV
Avocado **CHILI**
$4.6 Million 6.48 M

IRR
Avocado 19% / Chili 18%

Sustainability benefits

- ✓ **Direct & indirect**
- ✓ **beneficiaries:**
  37'190& 87880
- ✓ **Income increase per capita:**
  US$850

Emission reduction

05 Beef

Cost (US$) 40.1M

NPV Beef : 141 Million

IRR: 22%

Sustainability benefits

- ✓ **Direct & indirect**
- ✓ **beneficiaries:**
  5,000 & 35000
- ✓ **Income increase**
- ✓ **per capita:**
  US$869.7

Emission reduction