Project scope

Identify opportunities

- Conduct an analysis of the agriculture industries and related activities in each district/county. This should include an understanding of:
  - youth employment and entrepreneurship activities
  - opportunities for extension and value addition services
  - land availability
  - supply and demand
  - food prices
  - opportunities for growth

- Conduct an analysis of non-agriculture related industries in each district and specific opportunities relating to youth

Approaches to exploit opportunities

- Develop recommendations for TechnoServe to link local businesses and partners with program beneficiaries during implementation and identify skills required for success in those industries

Recommendations

- Develop recommendations for STRYDE, based on the result of research, interviews and field visits
Youth employment in Rwanda
- Rwanda has a large and rapidly growing youth population
  - The influx of youth entering the workforce presents a growing challenge in finding productive economic activities; a large proportion work unpaid on the family farm

Agricultural youth opportunities
- Rwanda’s high population density and hilly terrain mean that access to land is a major barrier for youth involvement in agriculture. Consequently, livestock generally presents more youth opportunities than farming
  - Small farm sizes inhibit production efficiency, which the GoR is trying to address through regionalised crop production and land consolidation policies

Food crops:
- Generally attractive industries with high demand, GoR support, development of some processing facilities and potential to further increase yields and reduce losses
  - Most lucrative crops appear to be Irish potatoes in Musanze, rice in Gakenke (where GoR owned marshland may be available) and cassava in Ruhango and Nyanza
  - However, youth involvement severely limited by lack of access to land, but opportunities exist in trading, storage and possibly value addition

Cash crops:
- Coffee is the major cash crop, particularly in Gakenke. However, youth opportunities are largely limited to input/service provision and seasonal employment in washing stations
  - Opportunities in sugar cane and pyrethrum are restricted to the vicinities of the sole processing plants, in Gakenke and Musanze respectively

Note: GoR = Government of Rwanda
Executive Summary (2 of 2)

Livestock:
- Keeping small livestock (poultry, goats, pigs, rabbits, sheep) is the most accessible opportunity for youth entrepreneurship across all 4 STRYDE regions: land and capital requirements are low, and profit potential is high, if youth can learn good farming practices and avoid diseases
- Opportunities in livestock trading also exist, if a vehicle can be hired
- The dairy industry is growing nationally, partly due to the GoR’s “One cow per Family” programme. The best youth opportunities appear to be in feed provision and milk trading
- Beekeeping, fish farming and fishing in Lake Ruhango can be profitable activities, if youth groups can meet the high initial capital requirements

Non-agricultural youth opportunities
- A variety of opportunities exist outside agriculture, in activities such as transport, ICT and construction
- Gorilla tourism in Musanze presents opportunities in activities such as artisans and porters, as well as related services including hotels, bars and restaurants
- Mining, a GoR priority industry, is a major employer in Gakenke and Ruhango

Issues and approaches
- Before embarking on a business, youth should be encouraged to seek specialist advice (often available from GoR bodies) and ensure they are familiar with the local market for their produce/service
  - Idea generation should be a major part of the STRYDE program, as youth often lack exposure to business ideas
- STRYDE should be a “hands-on”, practical programme, encouraging persistence and teamwork, with a competitive element where possible
- Youth should be encouraged to investigate borrowing options and use them to finance viable business plans

Note: GoR = Government of Rwanda
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
- Issues and approaches
- Appendix
Several trends have increased the economic and social significance of youth in the labour market in Rwanda

- **Rising youth population**
  - There are more young people, in absolute and relative terms, than ever before in Rwanda, and the number is growing rapidly

- **High youth unemployment**
  - Youth unemployment is high and has been increasing
    - Lack of employment opportunities and poorly educated / skilled youth inevitably lead to raising youth unemployment

- **Career expectations**
  - The current generation of Rwandan youth has a growing level of exposure to the world, and thus different career expectations to their predecessors; yet job creation has not kept pace with these aspirations

- **Political significance**
  - Youth represent a politically significant group that will have a key role in shaping the country’s development path
    - A young workforce has the potential to accelerate productivity growth and spur better governance
    - However, without adequate opportunity to contribute productively, youth can turn to risky behaviour with possible implications for the incidence of crime, drug use and HIV/AIDS
Young people make up a large proportion of Rwanda’s population: 15-30 year olds make up 30% of the population.

Population by age group (2010)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>14%</td>
</tr>
<tr>
<td>15-20</td>
<td>14%</td>
</tr>
<tr>
<td>20-30</td>
<td>10%</td>
</tr>
<tr>
<td>30-40</td>
<td>11%</td>
</tr>
<tr>
<td>40-50</td>
<td>19%</td>
</tr>
<tr>
<td>50-60</td>
<td>20%</td>
</tr>
<tr>
<td>60+</td>
<td>17%</td>
</tr>
</tbody>
</table>

Influx of youth entering the workforce creates growing unemployment rates.

Low proportion of working-age population puts strain on earnings per person:
- Large proportion of earnings goes into supporting children
- Pressure for children to enter workforce early

Source: ILO
Furthermore, Sub-Saharan Africa’s youth population is projected to grow faster than any other region in the World.

Youth population by region
(15-30 age group)

Millions

<table>
<thead>
<tr>
<th>Region</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>400</td>
</tr>
<tr>
<td>South-Central Asia</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>Eastern Asia</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
<td>400</td>
<td>450</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>120</td>
<td>140</td>
<td>160</td>
<td>180</td>
<td>200</td>
<td>220</td>
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<td>Europe</td>
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<td>85</td>
<td>90</td>
<td>95</td>
<td>100</td>
<td>105</td>
</tr>
<tr>
<td>North America</td>
<td>50</td>
<td>55</td>
<td>60</td>
<td>65</td>
<td>70</td>
<td>75</td>
</tr>
</tbody>
</table>

Youth population by country
(15-30 age group)

Millions

<table>
<thead>
<tr>
<th>Country</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
<th>2030</th>
<th>2040</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Kenya</td>
<td>4</td>
<td>4.5</td>
<td>5</td>
<td>5.5</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>Rwanda</td>
<td>3</td>
<td>3.2</td>
<td>3.4</td>
<td>3.6</td>
<td>3.8</td>
<td>4</td>
</tr>
</tbody>
</table>

CAGR % (2010-50)

<table>
<thead>
<tr>
<th>Country</th>
<th>CAGR %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uganda</td>
<td>2.7%</td>
</tr>
<tr>
<td>Kenya</td>
<td>1.9%</td>
</tr>
<tr>
<td>Rwanda</td>
<td>1.9%</td>
</tr>
</tbody>
</table>

Source: UN
Reported youth unemployment and inactivity is low

Employment status by age group (2006)
Percent

Note: * Inactive refers to youth involved in non-economic work such as fetching water/wood, cooking, housekeeping etc.
Source: NISR: Rwanda in Statistics and Figures 2008
However, a large proportion of young workers (particularly women) are employed without a wage on the family farm.

Job status of youth workers (2006)
Percent

Source: NISR: Labour Market and Economic Activity Trends in Rwanda
72% of youth employment is in agriculture, particularly among people who have not attended secondary school

**Employment of young people (15-34)**

**Women**

<table>
<thead>
<tr>
<th>Percent</th>
<th>Secondary or higher</th>
<th>Primary</th>
<th>No formal education</th>
</tr>
</thead>
<tbody>
<tr>
<td>11%</td>
<td>72%</td>
<td>17%</td>
<td></td>
</tr>
</tbody>
</table>

**Men**

<table>
<thead>
<tr>
<th>Percent</th>
<th>Secondary or higher</th>
<th>Primary</th>
<th>No formal education</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>72%</td>
<td>14%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Rwanda Youth Employment Assessment Report, USAID
Agenda

- Youth Employment in Rwanda

- Overview of STRYDE districts
  - Agricultural review

- Key youth entrepreneurship and employment opportunities

- Issues and approaches

- Appendix
STRYDE is focusing on 4 districts: 2 in the north and 2 in the south of Rwanda. All 4 districts have a large population of young people.

### Rwanda

**Agricultural households by district**

Population Percent

<table>
<thead>
<tr>
<th>District</th>
<th>Number in 15-29 age group</th>
<th>0-14</th>
<th>15-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-40</th>
<th>40-50</th>
<th>50-60</th>
<th>60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musanze</td>
<td>104k</td>
<td>95k</td>
<td>76k</td>
<td>69k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gakenke</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruhango</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nyanza</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- Lake
- Number of households:
  - 0 - 14
  - 15 - 29
  - 30 - 40
  - 40 - 50
  - 50 - 60
  - 60+

Source: NSIR
Illiteracy is a problem, especially in the southern districts. The majority have only primary education.

**Literacy by district and gender (10-24 age group)**

<table>
<thead>
<tr>
<th></th>
<th>Musanze</th>
<th>Gakenke</th>
<th>Ruhango</th>
<th>Nyanza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Education level - National (15-24 age group)**

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal education</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>Primary</td>
<td>72%</td>
<td>72%</td>
</tr>
<tr>
<td>Secondary</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Tertiary</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: NSIR; Rwanda Youth Employment Assessment Report, USAID
The town of Musanze is a regional hub for transport and tourism. The district’s volcanic soils are also well suited to Irish potatoes and pyrethrum.

- The town of Musanze is a regional hub
  - 4th largest town in Rwanda, with c.90k inhabitants
  - Transport links to Kigali and Gisenyi
  - Major tourism centre for Volcanoes National Park
- Lake Ruhondo provides opportunities in fishing and tourism
- Musanze has fertile, volcanic soils good for agriculture especially:
  - Irish potatoes
  - Maize and wheat
  - Climbing beans
  - Vegetables (esp. cabbage and pumpkin)
  - Pyrethrum (localised industry around SOPYRWA plant)
Gakenke is a major agricultural producer, growing fruit to serve the Kigali market. Coffee and mining are also major industries.

- Gakenke has few major towns, but is a densely populated district.
  - Terrain is generally hilly, between 1,600 and 2,000m.
- Agriculture is the main economic activity, particularly:
  - Maize
  - Rice, in marshlands near the Nyabarongo River
  - Sweet potatoes
  - Climbing beans
  - Fruits (esp. bananas and avocado) – serving Kigali market
- It also has high coffee and sugar cane production.
- It is rich in minerals such as coltan, which has led to the development of a mining industry which employs a large number of youth.

Note: Mugunga sector also covered by STRYDE
Source: NSIR
Ruhango contains a number of industries, including dairy, coffee and mining. It is a major cassava producer and has several processing plants.

- Terrain is generally hilly (though less so than Gakenke), between 1,400 – 1,800m
- The major food crops are:
  - Cassava – processing plants in Mwendo and Kinazi
  - Sweet potato
  - Bush beans
  - Rice
- Coffee is the major cash crop
- Ruhango is a major milk producer and has a large poultry population
- Mining is also a large employer

Source: NSIR
Nyanza is also strong in cassava, dairy and coffee and also has a minor tourism industry.

- Terrain is generally hilly (though less so than Gakenke), between 1,400 – 1,800m.
- The major food crops are:
  - Sorghum
  - Cassava
  - Sweet potato
  - Bush beans
  - Rice
- Coffee is the major cash crop.
- Dairy is a major industry, with Nyanza Dairy a major employer.
- There is some tourism, centred around the Royal Palace, home of the Rwesoro Art Museum.
Agenda

- Youth Employment in Rwanda
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Rwanda is very densely populated, which puts pressure on agricultural land and means access to land is a major problem, especially for youth.

- High and growing population density means that availability of agricultural land is low
  - There is only one hectare of arable land for every 9 Rwandans
  - A substantial number of rural families who subsist on agriculture own less than 1 hectare

- This results in intense exploitation of the land, causing a decline in land productivity and environmental degradation

- Access to land is a particular barrier for youth, who have to rely on borrowing land from parents
  - Land is rarely available to rent, as in Kenya and Uganda

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**Population density**
People per km²

- **UK**: 255
- **USA**: 32
- **Rwanda**: 407
- **Kenya**: 69
- **Uganda**: 136

---

Source: UN; Rwanda Vision 2020
Over half of each district is used for agriculture, mainly food crops. The average land holding is very small.

- **Land use by district**
  - Percent
  - **Musanze**: 61k Ha
  - **Gakenke**: 70k Ha
  - **Ruhango**: 60k Ha
  - **Nyanza**: 61k Ha

- **Non-agricultural**
- **Other agriculture**
  - Includes forage crops, fallow and afforestation
- **Cash crops**
- **Food crops**

- **Average farm size (Ha)**
  - Musanze: 0.59 Ha
  - Gakenke: 0.65 Ha
  - Ruhango: 0.57 Ha
  - Nyanza: 0.66 Ha

- **Note**: *Includes forage crops, fallow and afforestation
  - Source: NSIR, National Agriculture Survey 2008

- **Almost all agriculture is done traditionally, with little use of mechanisation, resulting in low yields**
- **Small farm sizes makes modernisation and economies of scale more difficult**
The Government of Rwanda is pursuing several policies to increase agricultural productivity, including regionalised crop production.

- Promotion of **regionalised crop production**, with the idea that producing a single crop on larger land areas is more efficient than the traditional practice of small, intercropped plots.
- Increased provision of subsidised inputs and improved seeds, particularly hybrid maize.

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**Crop intensification project**

- Land consolidation and law against land fragmentation, prohibiting subdivision of land below 1 hectare.
- Large scale rehabilitation of swamplands for crop cultivation, rain water management and protection of water resources.
- Radical terraces to expand the area under production.
- Provision of land on long-term lease basis – facilitating farmers’ access to finance.

---

**Land management**

- “One Cow per Family” program: Distribution of cows to farming households, in part to increase the amount of organic fertilizer available for crop production.

---

**Livestock intensification**

- Privatisation of agricultural operations previously owned by the Government:
  - E.g., selling rice mills to the Australian company ICM.

---

**Private sector involvement**

Source: USAID
There is still room for improvement in fertiliser use, especially in the southern districts.

MINAGRI cite a number of factors that limit the effective use of fertilisers:

- **High cost** for small farmers
- Lack of farmer **awareness** of the value of applying fertilisers
- Farmers’ lack of **knowledge** in the use of fertilisers; e.g. incorrect quantities or poor timing
- Inefficient fertiliser **supply and distribution** system, especially in upcountry areas
- **Packaging** of fertilisers in large sizes (50 kg) makes it difficult for farmers with small plots to buy it
- Fertiliser mixes imported and sold to farmers may not be the most appropriate for all crops, locations and seasons
Food crops: Maize, sorghum, potatoes and cassava are major crops in STRYDE areas

Crop production (2008)
Thousands of tons

Cereals:

- Maize
- Sorghum
- Rice
- Wheat

Crop prevalence
Percentage of farmers planting crops

Tubers:

- Sweet potato
- Cassava
- Irish potato
- Taro

Source: NSIR, National Agriculture Survey 2008
Beans are also prevalent. Sugar cane and coffee are the most important cash crops.

### Crop production (2008)

**Thousands of tons**

**Pulses:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Musanze</th>
<th>Gakenke</th>
<th>Ruhango</th>
<th>Nyanza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bush beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climbing beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soybean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundnut</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cash crops:**

<table>
<thead>
<tr>
<th>Crop</th>
<th>North Province</th>
<th>South Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar cane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pyrethrum</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: NSIR, National Agriculture Survey 2008
Horticulture: Around half of agricultural households grow fruit or vegetables

**Fruit and vegetable growing**
Percent of agricultural households

- Musanze: 64k Households
  - None: 20%
  - Fruit only: 40%
  - Vegetables only: 20%
  - Vegetables & fruit: 20%
- Gakenke: 73k Households
  - None: 30%
  - Fruit only: 40%
  - Vegetables only: 20%
  - Vegetables & fruit: 10%
- Ruhango: 56k Households
  - None: 40%
  - Fruit only: 20%
  - Vegetables only: 10%
  - Vegetables & fruit: 30%
- Nyanza: 47k Households
  - None: 50%
  - Fruit only: 30%
  - Vegetables only: 20%
  - Vegetables & fruit: 10%

Note: Season 2008A
Source: NSIR, National Agriculture Survey 2008
The northern STRYDE districts in particular are major fruit and vegetable producers.

**Fruit and vegetable production (2008)**
Thousands of tons

- **Fruit**:
  - Musanze: 83
  - Gakenke: 28
  - Ruhango: 21
  - Nyanza: 19

- **Vegetables**:
  - Musanze: 21
  - Gakenke: 15
  - Ruhango: 7
  - Nyanza: 7

**Prevalence**
Percentage of farmers planting fruit and vegetables

- **Cooking banana**: North: 40, South: 60
- **Beer banana**: North: 30, South: 50
- **Avocado**: North: 30, South: 50
- **Papaya**: North: 20, South: 40
- **Passion fruit**: North: 20, South: 40
- **Mango**: North: 15, South: 30
- **Plum of Japan**: North: 10, South: 20
- **Guava**: North: 5, South: 10
- **Pineapple**: North: 5, South: 10
- **Dodo (Amaranthus)**: North: 40, South: 60
- **Pumpkins**: North: 30, South: 50
- **Eggplants**: North: 20, South: 40
- **Onions**: North: 15, South: 30
- **Cabbages**: North: 10, South: 20
- **Tomatoes**: North: 10, South: 20

*Source: NSIR, National Agriculture Survey 2008*
Livestock: Most agricultural households also keep animals

Livestock production
Percent of agricultural households

<table>
<thead>
<tr>
<th></th>
<th>Musanze</th>
<th>Gakenke</th>
<th>Ruhango</th>
<th>Nyanza</th>
</tr>
</thead>
<tbody>
<tr>
<td>No animals</td>
<td>20%</td>
<td>60%</td>
<td>60%</td>
<td>80%</td>
</tr>
<tr>
<td>Poultry yard only</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Small livestock only</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Big livestock only</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Big livestock &amp; poultry yard</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Big &amp; small livestock</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Big &amp; small livestock &amp; poultry yard</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
<td>60%</td>
</tr>
</tbody>
</table>

Households

Source: NSIR, National Agriculture Survey 2008
Cattle, goats and poultry are all commonly kept. Forestry is also a generator of moderate income, along with fishing in Musanze.

### Livestock and animal products

**Thousands of animals**

- **Cattle**: 
  - Musanze: 547k
  - Gakenke: 401k
  - Ruhango: 1,600k
  - Nyanza: 2,100k
- **Goats**: 
  - Musanze: 122k
  - Gakenke: 286k
  - Ruhango: 292k
  - Nyanza: 177k
- **Poultry**: 
  - Musanze: 100k
  - Gakenke: 80k
  - Ruhango: 60k
  - Nyanza: 40k
- **Sheep**: 
  - Musanze: 547k
  - Gakenke: 401k
  - Ruhango: 1,600k
  - Nyanza: 2,100k
- **Rabbits**: 
  - Musanze: 122k
  - Gakenke: 286k
  - Ruhango: 292k
  - Nyanza: 177k
- **Guinea pigs**: 
  - Musanze: 122k
  - Gakenke: 286k
  - Ruhango: 292k
  - Nyanza: 177k
- **Pigs**: 
  - Musanze: 122k
  - Gakenke: 286k
  - Ruhango: 292k
  - Nyanza: 177k

### Forestry and fishing income

**Millions of RWF**

- **Timber**: 
  - Musanze: 80
  - Gakenke: 60
  - Ruhango: 40
  - Nyanza: 20
- **Charcoal**: 
  - Musanze: 80
  - Gakenke: 60
  - Ruhango: 40
  - Nyanza: 20
- **Sawn wood**: 
  - Musanze: 80
  - Gakenke: 60
  - Ruhango: 40
  - Nyanza: 20
- **Firewood**: 
  - Musanze: 80
  - Gakenke: 60
  - Ruhango: 40
  - Nyanza: 20
- **Fishing**
  - Musanze: 80
  - Gakenke: 60
  - Ruhango: 40
  - Nyanza: 20

*Source: NSIR, National Agriculture Survey 2008*
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Agriculture
  - Non-agriculture
- Issues and approaches
- Appendix
Youth opportunities in agriculture have been identified based on several criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>Industries with strong presence in STRYDE districts</td>
</tr>
<tr>
<td>Industry attractiveness</td>
<td>Demand, industry growth and profitability</td>
</tr>
<tr>
<td></td>
<td>Industry constraints and issues</td>
</tr>
<tr>
<td></td>
<td>Opportunities for growth and development</td>
</tr>
<tr>
<td>Ease of youth involvement</td>
<td>Start-up capital requirement</td>
</tr>
<tr>
<td></td>
<td>Land requirement</td>
</tr>
<tr>
<td></td>
<td>Time commitment and cashflow schedule (e.g. time to first harvest and harvesting frequency)</td>
</tr>
<tr>
<td>Potential profitability</td>
<td>Expected profitability for youth entrepreneurs</td>
</tr>
<tr>
<td></td>
<td>Challenges and risks to successful enterprise</td>
</tr>
<tr>
<td>Scale of opportunity</td>
<td>Estimated potential number of youth who could be involved</td>
</tr>
</tbody>
</table>
## Presence of agricultural industries in STRYDE regions

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Musanze</th>
<th>Gakenke</th>
<th>Ruhango</th>
<th>Nyanza</th>
<th>Industry attractiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maize and wheat</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Demand generally exceeds supply</td>
</tr>
<tr>
<td>Sorghum</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Government support available</td>
</tr>
<tr>
<td>Rice</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Organised cooperatives and processing in some regions</td>
</tr>
<tr>
<td>Cassava</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• However, farming suffers from high production costs, high post-harvest losses and price volatility</td>
</tr>
<tr>
<td>Irish and sweet potatoes</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Youth involvement hampered by lack of land availability</td>
</tr>
<tr>
<td>Beans</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td></td>
</tr>
<tr>
<td>Horticulture</td>
<td>✔ ✔</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td></td>
</tr>
<tr>
<td><strong>Cash crops</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coffee</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Increasing export prices from improved processing and quality</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td></td>
<td></td>
<td>• Localised opportunities</td>
</tr>
<tr>
<td>Pyrethrum</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Single domestic processor in each</td>
</tr>
<tr>
<td><strong>Livestock</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goats, poultry, sheep, rabbits, pigs</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Ready markets and high demand</td>
</tr>
<tr>
<td>Dairy</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Easily accessible youth opportunity</td>
</tr>
<tr>
<td>Beekeeping</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td></td>
</tr>
<tr>
<td>Fishing and fish farming</td>
<td>✔ ✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
<td>• Depends on suitable site</td>
</tr>
</tbody>
</table>
## Key agricultural youth entrepreneurship opportunities (1 of 2)

<table>
<thead>
<tr>
<th>Food crops</th>
<th>Ease of youth involvement</th>
<th>Profitability* / year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish potato farming</td>
<td>Start-up capital</td>
<td>Land requirement</td>
<td>Time commitment</td>
</tr>
<tr>
<td>Rice farming</td>
<td>70k</td>
<td>Yes</td>
<td>1+ year</td>
</tr>
<tr>
<td>Cassava farming</td>
<td>70k</td>
<td>Yes</td>
<td>1+ year</td>
</tr>
<tr>
<td>Vegetable farming – cabbages</td>
<td>100k</td>
<td>Yes</td>
<td>1+ year</td>
</tr>
<tr>
<td>Crop trading</td>
<td>Moderate</td>
<td>No</td>
<td>6+ months</td>
</tr>
<tr>
<td>Crop storage</td>
<td>675k RWF</td>
<td>Storage location</td>
<td>1+ year</td>
</tr>
<tr>
<td>Value addition</td>
<td>Low</td>
<td>No</td>
<td>6+ months</td>
</tr>
<tr>
<td>Greenhouse horticulture</td>
<td>2.5m RWF</td>
<td>Yes</td>
<td>3+ years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cash crops</th>
<th>Ease of youth involvement</th>
<th>Profitability* / year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee input distribution and farm service provision</td>
<td>660k RWF</td>
<td>No</td>
<td>1+ year</td>
</tr>
<tr>
<td>Washing station employees</td>
<td>None</td>
<td>No</td>
<td>1+ month</td>
</tr>
</tbody>
</table>

Note: * Excluding start-up costs and labour
Source: TNS analysis
## Key agricultural youth entrepreneurship opportunities (2 of 2)

<table>
<thead>
<tr>
<th></th>
<th>Start-up capital</th>
<th>Land requirement</th>
<th>Time commitment</th>
<th>Profitability* / year</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Small livestock</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Poultry keeping – layers | 550k RWF         | Small plot       | 1+ years        | 1,240k RWF            | • Demand generally high  
                                                                             • Accessible activity for youth  
                                                                             • High disease risk            |
| Poultry keeping – broilers | 250k RWF         | Small plot       | 1+ years        | 1,470k RWF            |                                                                      |
| Pig keeping      | 500k RWF         | Small plot       | 1+ years        | 1,010k RWF            |                                                                      |
| Rabbit keeping   | 300k RWF         | Small plot       | 1+ years        | 2,678k RWF            |                                                                      |
| Goat trading     | 1,200k RWF       | No               | 6+ months       | 2,640k RWF            | • Business could be built up with lower start-up capital             |
| **Dairy**        |                  |                  |                 |                       |                                                                      |
| Dairy feed providers | Low              | Yes              | 1+ years        | 1,030k RWF            | • Demand depends on rainfall                                      |
| Milk transporters and traders | 30k RWF | No | 3+ months | 600k RWF | • Few hours per day |
| **Other livestock** |                  |                  |                 |                       |                                                                      |
| Beekeeping       | 30k RWF          | Small plot       | 1+ years        | 60k RWF/hive          | • Low time commitment                                               |
| Fishing          | 600k RWF         | No               | 1+ years        | 4,000k RWF            | • Only in Musanze                                                   |
| Fish farming     | 480k RWF         | Yes              | 2+ years        | 1,365k RWF            | • Requires suitable location                                        |

Note: * Excluding start-up costs and labour  
Source: TNS analysis
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Agriculture
    - Food crops
    - Staple food crops
      - Horticulture
      - Market timing
    - Cash crops
    - Livestock
    - Non-agriculture
- Issues and approaches
- Appendix
Food crop industries have some advantages, with strong demand and Government support. However there are challenges, particularly for youth.

### Staple food crops

<table>
<thead>
<tr>
<th><strong>Industry strengths</strong></th>
<th><strong>Challenges</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong demand, generally exceeding supply</td>
<td><strong>Youth involvement:</strong></td>
</tr>
<tr>
<td>Government providing support through subsidised inputs and extension services, particularly for maize and cassava</td>
<td>- Land availability</td>
</tr>
<tr>
<td>Some cooperatives well organised</td>
<td>- Skills &amp; knowledge</td>
</tr>
<tr>
<td>Some processing facilities being developed (e.g. cassava plants in Ruhango)</td>
<td><strong>Industry:</strong></td>
</tr>
<tr>
<td>Increasing yields with scope for further improvements</td>
<td>- Low yields and expensive production due to small farm sizes, fragmented value chains and high transport costs</td>
</tr>
<tr>
<td>Opportunities to reduce post-harvest losses</td>
<td>- Competition from cheaper imports</td>
</tr>
<tr>
<td></td>
<td>- Poor quality produce &amp; high post-harvest losses</td>
</tr>
<tr>
<td></td>
<td>- Price volatility: farmers have little control over when they sell their produce [see “Market Timing” section]</td>
</tr>
<tr>
<td></td>
<td>- Lack of processing facilities</td>
</tr>
</tbody>
</table>
Production of most of the major staple food crops has increased dramatically over the past 5 years, driven by yield increases.

**Rwanda staple food crop production**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rice</td>
<td>4</td>
<td>0.4</td>
<td>Sweet potatoes</td>
<td>1</td>
<td>0.2</td>
<td>Soya</td>
<td>15</td>
<td>0.4</td>
</tr>
<tr>
<td>Wheat</td>
<td>27</td>
<td>0.6</td>
<td>Irish potatoes</td>
<td>9</td>
<td>0.1</td>
<td>Peas</td>
<td>10</td>
<td>0.2</td>
</tr>
<tr>
<td>Sorghum</td>
<td>(7)</td>
<td>0.8</td>
<td>Cassava</td>
<td>22</td>
<td>0.2</td>
<td>Groundnuts</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Maize</td>
<td>32</td>
<td>1.0</td>
<td>Taro</td>
<td>5</td>
<td>0.6</td>
<td>Beans</td>
<td>9</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Source: Rwanda Statistical Yearbook 2011
However, Rwanda is still a net importer of most staple foods.

**Rwanda staple crop trade (2009)**

<table>
<thead>
<tr>
<th>Crop</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rice (milled)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassava</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irish potatoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Informal trade data is for May 2009 – April 2010, converted to MT using 2010 average price.

Source: FAOStat; MINAGRI: National Post-Harvest Staple Crop Strategy
Rice, cassava and Irish potatoes generate the highest revenues per hectare, based on 2010 average yields and prices.

<table>
<thead>
<tr>
<th>Food crops</th>
<th>Time to maturity (months)</th>
<th>Rain req. during growing season</th>
<th>Growing altitude</th>
<th>Yield(^*) (kg/Ha/year)</th>
<th>Wholesale price* (RWF/kg)</th>
<th>Wholesale revenue (RWF/Ha/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>4-5</td>
<td>600-900mm</td>
<td>0-3,000m</td>
<td>2,300</td>
<td>183</td>
<td>0.4m</td>
</tr>
<tr>
<td>Sorghum</td>
<td>3-4</td>
<td>250mm +</td>
<td>0-2,500m</td>
<td>1,200</td>
<td>227</td>
<td>0.3m</td>
</tr>
<tr>
<td>Wheat</td>
<td>4-5</td>
<td>700-1,000mm</td>
<td>0-3,000m</td>
<td>1,600</td>
<td>320(^+)</td>
<td>0.5m</td>
</tr>
<tr>
<td>Rice</td>
<td>4-5</td>
<td>800-2,000mm</td>
<td>0-2,500m</td>
<td>5,200</td>
<td>571</td>
<td><strong>3.0m</strong></td>
</tr>
<tr>
<td>Cassava</td>
<td>9-12</td>
<td>1,000-1,500mm</td>
<td>0-1,500m</td>
<td>12,000</td>
<td>191(^+)</td>
<td><strong>2.3m</strong></td>
</tr>
<tr>
<td>Irish potatoes</td>
<td>3-4</td>
<td>500-750mm</td>
<td>1,200-3,000m</td>
<td>11,900</td>
<td>131</td>
<td><strong>1.6m</strong></td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>3-4</td>
<td>600-1,600mm</td>
<td>0-3,000m</td>
<td>7,500</td>
<td>86</td>
<td>0.6m</td>
</tr>
<tr>
<td>Beans</td>
<td>2-3</td>
<td>300-400mm</td>
<td>600-2,000m</td>
<td>1,000</td>
<td>292</td>
<td>0.3m</td>
</tr>
</tbody>
</table>

Note: \(^*\) Average yield across Rwanda in 2010 – generally much lower than potential yield; * Average Rwanda 2010 market price; \(^+\) 2009 price
Source: Infonet-biovision.org; USAID; FAOStat
## Food crops industry strengths, challenges and opportunities: Cereals

<table>
<thead>
<tr>
<th></th>
<th>Industry strengths</th>
<th>Industry challenges</th>
<th>Industry opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Maize</strong></td>
<td><strong>Industry strengths</strong></td>
<td>GoR priority crop • Demand exceeds supply • RADA providing subsidised inputs • Processing facilities being developed</td>
</tr>
<tr>
<td></td>
<td><strong>Wheat</strong></td>
<td><strong>Industry strengths</strong></td>
<td>Demand exceeds supply • Some cooperatives are well organized and have storage facilities • Some milling facilities exist</td>
</tr>
<tr>
<td></td>
<td><strong>Rice</strong></td>
<td><strong>Industry strengths</strong></td>
<td>Potential for high quality product • Strong, well organized rice unions and cooperatives • Linkages between rice cooperatives and MFIs enable storage • MINAGRI developing marshland – some youth groups can use Government owned land</td>
</tr>
</tbody>
</table>

Source: USAID: “Assessment of Post-harvest Opportunities in Rwanda”
<table>
<thead>
<tr>
<th>Industry</th>
<th>Industry strengths</th>
<th>Industry challenges</th>
<th>Industry opportunities</th>
</tr>
</thead>
</table>
| **Cassava** | • GoR priority crop  
• Drought resistant crop which can be stored in soil before harvesting  
• Development of processing facilities, including in Ruhango | • Rapid deterioration of roots once harvested if not processed  
• Need for clean water and drying facilities for production of chips with long shelf life  
• Production of high quality flour is difficult  
• Outbreak of Brown Streak Virus  
• Processing is labour intensive | • Processing techniques including proper cleaning, soaking, drying and flour production  
• Chips, livestock feed, ethanol, sweeteners and pharmacy products |
| **Irish potatoes** | • Favourable climate and soils  
• Cooperatives are strong and well organized, supported by NGOs including BAIR, Imbaraga and ACDI/VOCA | • High bulk & perishability vs. grains & legumes, increasing transport & storage costs  
• Volatile prices due to perishability  
• Risk of theft during 2 week suberisation period  
• Increasing disease pressure due to inadequate rotation periods and pest control measures | • Techniques to reduce damage during harvest, packaging and transporting  
• Disease management: disinfection and removal of diseased tubers  
• Washing, grading and packaging |
| **Beans** | • High local demand and by large buyers such as WFP P4P, UNICEF  
• Good rotation crop for other staples, e.g. maize and potato | • No cooperatives and no formal marketing  
• Not a GoR priority crop - no input or extension support  
• Current shelling techniques lead to losses  
• High storage losses due to weevil infestation  
• Pests and disease outbreaks if single-variety and mono-cropping production encouraged | • Improved shelling and storage  
• Grading |
There are some opportunities for entrepreneurship and employment along the value chain

**Food crop value chain**

- Inputs
- Production
- Cooperatives
- Trading
- Processing
- Wholesaling
- Retailing
- End users

**Opportunities for youth involvement**

- Government involvement with subsidies limits opportunities
- Start-up capital can be a problem
- Land availability is a major limitation
- Where land is available, can be profitable for youth groups
- Presence depends on region and crop
- Seasonal employment in collection and transport
- Opportunity for youth to profit from bulking and regional price differences
- Depends on plants present in the local area
- Youth employment opportunities generally limited
- Youth employment opportunities generally limited

**Key:**
- Major youth opportunities
- Youth entrepreneurship opportunities
- Youth employment opportunities

Source: USAID: Staple Foods Value Chain Analysis, 2010
Where land is available to buy or rent, food crop farming is an opportunity accessible to youth. However, good profitability depends on high yields.

### Food crop farming: Irish potatoes, rice, cassava

**Opportunity**
- Where land is available, youth can farm staple food crops, sharing the labour of land preparation, planting, fertilising, harvesting and sales.
- The best crop depends on the region:
  - **Irish potatoes** do well in the fertile soils of Musanze.
  - Youth groups can get access to Government owned marshland to farm **rice**, particularly in Gakenke.
  - **Cassava** may be best in the south, particularly near processing facilities where demand is high.

### Challenges and risks
- **Land availability**: Depends on availability of fertile land to buy or rent.
- **Start-up capital**: To buy/rent land and buy inputs.
- **Market linkages**: Requires good access to markets.
- **Market timing and price volatility**: Youth must be aware of market timing problems.
- **Farming knowledge**: Youth must learn proper farming practices to achieve good yields.
- **Diseases and pests**

### Outline business plan – Irish potatoes

#### Costs:

<table>
<thead>
<tr>
<th>Amount (RWF)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recurring</strong></td>
</tr>
<tr>
<td>Seeds: 15k</td>
</tr>
<tr>
<td>Land rental: 25k</td>
</tr>
<tr>
<td>Fertiliser: 30k</td>
</tr>
<tr>
<td><strong>Notes</strong></td>
</tr>
<tr>
<td>Per acre</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>70k</td>
</tr>
</tbody>
</table>

#### Revenue:

<table>
<thead>
<tr>
<th>Revenue</th>
<th>1st harvest: 190k</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 months</td>
<td>60% wholesale margin</td>
</tr>
<tr>
<td>2nd harvest: 190k</td>
<td></td>
</tr>
<tr>
<td>4 months</td>
<td>(12MT/Ha yield)</td>
</tr>
<tr>
<td>380k</td>
<td></td>
</tr>
</tbody>
</table>

#### Profit:

<table>
<thead>
<tr>
<th>Profit: 310k</th>
</tr>
</thead>
</table>

1st year profit per acre
There may be opportunities to profit from bulking and regional price differences through trading crops

**Crop trading**

**Opportunity**
- Fragmented value chains in most food crops may present opportunities for youth to profit from:
  - Bulking: collecting produce from disparate farms and selling at markets
  - Trading: Buying in areas where prices are low and transporting to higher priced markets

**Challenges and risks**
- **Start-up capital**: Required to hire vehicle and for working capital
- **Market knowledge**: Successful traders need relationships with buyers and sellers, and knowledge of local markets to make profits trading
- **Transport**: Poor roads create difficulties in accessing disparate farms and markets
- **Seasonal**: Business better in harvest seasons
- **Production and price volatility**: Could lead to business unpredictability

Source: Interviews
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Agriculture
    - Food crops
  - Staple food crops
  - Horticulture
    - Market timing
    - Cash crops
    - Livestock
      - Non-agriculture
- Issues and approaches
- Appendix
Cabbages, French beans and tomatoes are the most widely grown vegetables in STRYDE districts. Short growing times help youth involvement.

**Vegetable production (2008)**

Thousands of tons

<table>
<thead>
<tr>
<th>Produce</th>
<th>Time to maturity</th>
<th>Yield^ (MT/ Ha/ year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabbage</td>
<td>70 – 90 days</td>
<td>7.7</td>
</tr>
<tr>
<td>French beans</td>
<td>45 days</td>
<td>n/a</td>
</tr>
<tr>
<td>Tomato</td>
<td>60 – 70 days</td>
<td>7.6</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>90 – 120 days</td>
<td>4.9</td>
</tr>
<tr>
<td>Eggplant</td>
<td>60 – 90 days</td>
<td>6.8</td>
</tr>
<tr>
<td>Dodo (Amaranth)</td>
<td>40 – 50 days</td>
<td>n/a</td>
</tr>
<tr>
<td>Carrot</td>
<td>60 – 85 days</td>
<td>7.0</td>
</tr>
<tr>
<td>Onion</td>
<td>3 – 4 months</td>
<td>5.3</td>
</tr>
</tbody>
</table>

Note: ^ Average yield across Rwanda in 2010 – generally much lower than potential yield

Source: NSIR, National Agriculture Survey 2008; FAOStat
Vegetable, such as cabbages, can generate good profits if land is available

**Vegetable farming - cabbages**

- Cabbages are grown in all 4 STRYDE regions, with particularly high production in Musanze
- Tomatoes and French beans also generate good revenues
- Produce in Gakenke and Ruhango can also serve the Kigali market

**Opportunity**

**Challenges and risks**

- **Land availability**: Depends on availability of fertile land to borrow, buy or rent
- **Start-up capital**: To buy/rent land and buy inputs. High quality seeds can be difficult to obtain
- **Market linkages**: Requires good access to markets – ideally bypassing traders and middlemen
- **Market timing and price volatility**: Youth must be aware of market timing problems
- **Farming knowledge**: Youth must learn good farming practices to get good yields and avoid diseases and pests

**Outline business plan**

**Costs:**

<table>
<thead>
<tr>
<th>Amount (Ksh)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recurring</strong></td>
<td></td>
</tr>
<tr>
<td>Seeds</td>
<td>40k</td>
</tr>
<tr>
<td>Land rental</td>
<td>25k Per acre</td>
</tr>
<tr>
<td>Fertiliser</td>
<td>35k</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100k</td>
</tr>
</tbody>
</table>

**Revenue:**

| Cabbage sales | 580k |
| 8MT x 120 RWF/kg x 60% wholesale margin (20MT/Ha yield) |

**Profit:**

| 1st year profit per acre (excl. labour) | 480k |
| 1st year profit per acre (excl. labour) |
Most fruit growing from seed requires a longer wait until harvest. Bananas and avocados are the most widely grown.

**Fruit production (2008)**

Thousands of tons

<table>
<thead>
<tr>
<th>Fruit</th>
<th>Time to maturity</th>
<th>Yield (MT/Ha/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bananas</td>
<td>18 months</td>
<td>0.6</td>
</tr>
<tr>
<td>Avocados</td>
<td>3 – 4 years</td>
<td>4.7</td>
</tr>
<tr>
<td>Papaya</td>
<td>n/a</td>
<td>29.6</td>
</tr>
<tr>
<td>Pineapples</td>
<td>2 years</td>
<td>8.7</td>
</tr>
<tr>
<td>Mangoes</td>
<td>4 – 5 years</td>
<td>1.2</td>
</tr>
<tr>
<td>Guava</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Plum of Japan</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Passion fruit</td>
<td>6 months</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Source: NSIR, National Agriculture Survey 2008
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
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    - Horticulture
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      - Livestock
      - Non-agriculture
- Issues and approaches
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Crop prices tend to vary greatly over the course of the year, creating market timing problems for many farmers.

### Staple food prices*

**Thousands of USD / MT**

- **Rice**
- **Beans**
- **Maize**

Market timing is a major problem for many farmers:

- Rain-fed crops are generally harvested at the same time, so at the time they come to market there is over-supply and prices are low.

There are several ways that farmers can attempt to reduce this problem:

1. **Storage**: keep crops until prices are high.
2. **Value addition**: processing crops into other products, which are storable and have less price volatility.
3. **Greenhouses**: allow production off-cycle (generally used for high value crops, e.g. horticulture).
4. **Irrigation**, to allow production off-cycle. However, hilly nature of most farming land generally make irrigation impractical.

---

*Nominal wholesale price in Kigali

Source: FAO
Price fluctuations present an opportunity for youth to store crops

**Crop storage**

**Opportunity**
- Crop prices can fluctuate hugely between harvest season and off-season
  - E.g. maize prices can double
- This presents an opportunity for youth to make profits by buying crops at harvest time, storing them and selling when prices rise
- Storage can be at home or youth groups may be able to get access to public warehouses

**Challenges and risks**
- **Storage space**: Relies on space for storage at home or access to a public facility
- **Quality control**: Relies on ability to prevent crop deterioration during storage
- **Start-up capital**: To buy initial stock
- **Price volatility**: Can lead to business unpredictability
- **Market linkages**: Requires good access to markets

**Outline business plan**
- **Costs**: Buying maize: 675k RWF = 50 bags x 90kg x 150 RWF/kg + transport & storage costs
- **Revenue**: Selling maize: 1,350k RWF = 50 bags x 90kg x 300 RWF/kg
There may be opportunities for value addition which may improve farming profitability and reduce price volatility.

### Value addition

<table>
<thead>
<tr>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>There may be opportunities for youth to add value to crops and horticulture produce, e.g.:</td>
</tr>
<tr>
<td>• Grading</td>
</tr>
<tr>
<td>• Drying</td>
</tr>
<tr>
<td>• Slicing</td>
</tr>
<tr>
<td>• Packaging</td>
</tr>
<tr>
<td>This may make produce more marketable e.g. at supermarkets and should generate higher profits</td>
</tr>
<tr>
<td>Fruit opportunities: banana wine, passion fruit juice, papaya and strawberry jam</td>
</tr>
<tr>
<td>Can also apply to dairy products, e.g. yoghurt, cheese</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality and hygiene standards</strong>: Food processing requires adherence to food hygiene standards which are strictly enforced by the Bureau of Standards</td>
</tr>
<tr>
<td><strong>Market research</strong>: Critical to establish which products are marketable, where processed products will be sold, and what requirements are regarding standards, labelling, certifications etc.</td>
</tr>
<tr>
<td><strong>Start-up capital</strong>: Required to purchase processing equipment</td>
</tr>
<tr>
<td><strong>Training</strong>: Youth require knowledge of how to process foods</td>
</tr>
</tbody>
</table>
Greenhouses could allow youth groups to get higher yields and harvest crops off-cycle, but the initial investment is high and may be prohibitive.

### Greenhouse horticulture

#### Opportunity
- Suitable for growing a range of vegetables, including tomatoes, French beans, peppers, eggplants, chillies and peas
- Greenhouses protect crops from damage by rain, hail and wind
- Higher temperatures can increase yield and harvest frequency
- Drip irrigation makes crop production independent from rainfall: crops can be harvested when supply is low and prices are high

#### Challenges and risks
- **Start-up capital and land**: Funds and land required to construct greenhouse
- **Control of conditions**: Temperature and humidity need to be monitored and controlled 24 hours a day
- **Pests and disease**: Farmers tend to grow the same crop in a greenhouse without rotation, which means pests and diseases can only be controlled with increasing amounts of pesticides

#### Outline business plan

<table>
<thead>
<tr>
<th>Costs:</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenhouse</td>
<td>2.5m</td>
<td>Metal with drip irrigation</td>
</tr>
<tr>
<td>(8 x 15m)</td>
<td>1.5m</td>
<td>Timber/polythene</td>
</tr>
<tr>
<td><strong>Recurring:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeds</td>
<td>16k</td>
<td></td>
</tr>
<tr>
<td>Fertiliser</td>
<td>30k</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tomato production</td>
<td>4.3m</td>
<td>600 plants x 30 kg/plant x 400 RWF/kg x 60% wholesale margin</td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td>4.2m Excl. capex and land</td>
</tr>
</tbody>
</table>
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
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    - Cash crops
      - Coffee
      - Sugar cane and pyrethrum
    - Livestock
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Coffee is a major cash crop in Gakenke and the southern provinces.

- Coffee is Rwanda’s largest export crop, and is particularly important as a foreign exchange earner.
- Coffee production in Rwanda declined through the 1990s, partly due to declining world prices.
- In 2002, Rwanda put into action a strategy for enhancing coffee quality to be sold at the higher prices as specialty coffee.
  - There are now ~200 washing stations (up from 2 in 2002) and the average export price has increased.
  - Production has remained reasonably stable since 2005, at ~20k MT per year.

**Coffee trees**

<table>
<thead>
<tr>
<th>Region</th>
<th>6 months - 3 years</th>
<th>3 - 30 years</th>
<th>&gt;30 years</th>
<th>% of national production</th>
<th>Average no. of trees/farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musanze</td>
<td>0.2%</td>
<td>0.1%</td>
<td>0%</td>
<td>0.2%</td>
<td>114</td>
</tr>
<tr>
<td>Gakenke</td>
<td>7.2%</td>
<td>2.2%</td>
<td>4.8%</td>
<td>6.4%</td>
<td>166</td>
</tr>
<tr>
<td>Ruhango</td>
<td>3.5%</td>
<td>2.0%</td>
<td>2.0%</td>
<td>2.5%</td>
<td>185</td>
</tr>
<tr>
<td>Nyanza</td>
<td>4.1%</td>
<td>2.2%</td>
<td>4.8%</td>
<td>6.1%</td>
<td>140</td>
</tr>
</tbody>
</table>

Gakenke has the most coffee trees, including the most young trees.

Source: National Coffee Census, 2009
There may be entrepreneurship opportunities in production and trading, and some employment options in production.

**Coffee value chain**

- **Smallholder farmers**
- **Input distribution**
- **Farm services**
- **Co-operatives (~125)**
- **Small traders**
- **Washing stations (~200)**
- **Large traders**
- **Export**

**Key:**
- **Major opportunities**
- **Youth entrepreneurship opportunities**
- **Youth employment opportunities**

- Difficult for youth to get land to grow coffee trees, and renting trees is not usually possible.
- Some opportunities in inputs and services, although large companies already operating.
- Youth employment opportunities in co-operatives and washing stations in manual, technical and administrative positions. Work tends to be seasonal.
- Youth may be able to make businesses as coffee traders – buying from farmers, bulking and selling on to traders and processors.

**Source:** SNV
There may be opportunities to offer services to coffee farmers, in areas where this need is not already met.

**Input distribution and farm service provision**

- **Opportunity**
  - Some coffee farmers lack the knowledge and inputs to produce good quality coffee.
  - There may be opportunities to provide coffee farmers with:
    - Inputs: Some farmers don’t have ready access to buy fertilisers or lack the knowledge to apply them correctly.
    - Services: Spraying, weeding, pruning, fertilising.

- **Challenges and risks**
  - **Competition**: Large companies (e.g. Agro-Tech) already present in some areas.
  - **Start-up capital**: Required to buy motorbike, equipment and stock.
  - **Market links**: Youth must create relationships with input suppliers and farmers.
  - **Knowledge**: Requirement for good coffee knowledge in the use of inputs and farming techniques.
  - **Farmers unwilling to invest more in their coffee**: Farmers must be persuaded of the benefits of inputs and better farming techniques.
  - **Transport**: Poor roads create difficulties in accessing disparate coffee farms.
  - **Seasonal**: Business better in planting and harvesting seasons.

- **Outline business plan**
  - **Costs**:
    - Motorbike: 500k RWF
    - Spraying equipment: 80k RWF
    - Working capital: 80k RWF
  - **Revenue**:
    - Spraying: 1,500 trees/day x 10RWF/tree = 15k RWF/day

Source: Interviews
Agenda

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      - Sugar cane and pyrethrum
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Sugar cane and pyrethrum are both very localised industries, centred around the single processing plant serving each.

### Sugar cane

- **Demand**:
  - ✔ Local production meets only 30% of demand

- **Production**:
  - ✗ Small farm sizes and high altitude lead to high costs of production

- **Processing**:
  - ✗ Only one sugar processing plant (KWS) which also imports from Uganda
  - ✔ GoR trying to attract investment, including from Civital Group

- **Location**:
  - Localised:
    - Advantage from producing near processing plants
    - Moderate production in Gakenke (9% of national production)

- **Industry attractiveness for youth**:
  - Generally not an attractive industry, due to high costs of production and lack of processing facilities
  - Opportunities likely to be in production in Gakenke, near to KWS plant

### Pyrethrum

- **Demand**:
  - ✔ Strong demand and only 4 producing countries
  - ✔ Rwanda has a 15% global share

- **Production**:
  - ✔ Fertile volcanic soils ideal
  - ✔ 2011 production increased to 700MT from 209MT in 2010

- **Processing**:
  - ✔ One processing plant near Musanze, run by SOPYRWA
  - ✔ Strong support from GoR to attract investment, targeting 20% global share by 2015

- **Location**:
  - ✔ Highly localised:
    - Production only viable around Musanze

- **Industry attractiveness for youth**:
  - Attractive industry for youth involvement, but only around Musanze
  - ✗ Employment in plant or farming
Although sugar cane production has increased, it faces high costs of production and limited processing facilities.

Sugar cane production in Rwanda faces several constraints:
- The areas of land in narrow river valleys are too small to allow for mechanised production, resulting in high production costs.
- Sugar cane generally takes 18 months to mature (vs. 12 months elsewhere), due to the high altitude.
- Production must generally be located near processing plants to be viable.
  - Once harvested, sugar cane is highly perishable.
  - Transport costs are high since the bulk of sugar cane is considerable vs. the sugar that can be extracted.
- Rwanda has only one sugar processing plant, Kabuye Sugar Works (KSW), which produces 30% of local demand.
  - 70% of consumption is imported, mainly from Uganda and Tanzania.
  - Being the sole domestic producer gives KSW considerable market power, and evidence suggests that producers do not always benefit from rising sugar prices. KSW also has the ability to import from its sister company in Uganda.

**Sugar cane production**
Thousands of tonnes

![Sugar cane production chart](chart)

Source: International Land Coalition
Pyrethrum production has increased due to the development of the Musanze processing plant

- Only 4 major countries (Australia, Kenya, Tanzania and Rwanda) grow pyrethrum, a flower that is refined into a natural pesticide
  - Rwanda’s production increased from 209 to 700MT in 2011 and global market share surged from 6% to 15%
  - The industry enjoys strong Government support, aiming to increase global share to 20% by 2015

---

- Rwanda’s pyrethrum marketing system is extremely localised:
  - About 25,000 farmers grow pyrethrum on 3,000 ha around Rwanda’s only processing plant outside Musanze
  - Most pyrethrum growers belong to a production cooperatives, which coordinate production and marketing activities centrally

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- Most growers have adopted farm-level solar drying techniques and sell dried flowers, which are less perishable and cheaper to transport than fresh flowers
- In 2004, the Musanze processing plant was privatised and taken over by SOPYRWA
  - SOPYRWA has started a program to renovate, expand, and modernise the plant
  - Its strategy includes shifting from crude pyrethrum extracts, to more highly refined pyrethrum distillates that can be sold to a wider range of global buyers

Source: MINAGRI - Strategic Plan for the Transformation of Agriculture in Rwanda
Agenda

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  - Agriculture
    - Food crops
    - Cash crops
  - Livestock
    - Goats, poultry, sheep, rabbits, pigs
    - Dairy
    - Beekeeping
    - Fishing and fish farming
  - Non-agriculture
- Issues and approaches
- Appendix
Keeping and trading livestock is a major opportunity for Rwandan youth. Poultry and goats are the most widely kept.

Livestock population
Millions of animals

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Pigs</th>
<th>Rabbits</th>
<th>Goats</th>
<th>Poultry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2006</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2007</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>2010</td>
<td>1</td>
<td>0.5</td>
<td>0.3</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
</tr>
</tbody>
</table>

CAGR % (2005-10)
- Poultry: +14%
- Goats: +15%
- Cattle: +5%
- Rabbits: +12%
- Sheep: +7%
- Pigs: +13%

Keeping livestock is an accessible opportunity for youth in Rwanda, with several advantages:
- Does not require a large amount of land
- Low start-up capital requirements
- Quick returns on investment
- High demand and readily accessible sales at open markets across STRYDE regions
- Relatively low skill requirements

Youth trainers report potential in keeping all small livestock, especially poultry, pigs, rabbits and goats
- Trading animals is also potentially lucrative, if youth can hire a vehicle

Source: Rwanda Statistical Yearbook 2011; MINAGRI - Strategic Plan for the Transformation of Agriculture in Rwanda
Poultry keeping is an easily accessible business for youth, but disease is a major risk and production costs can be high.

**Opportunity**

Youth can keep chickens relatively easily:
- Layers: viable in areas where there is a ready market for eggs, typically easier near towns
- Broilers: mature from chicks in 6 weeks, usually a ready market for sale although it can be seasonal
- Indigenous chickens: typically command higher prices as they are perceived as healthier, but less productive

**Challenges and risks**

- **Disease**: High risk of disease which can spread rapidly. Bird flu and Newcastle disease (especially during rainy seasons) cause particular problems. The Rwanda Agriculture Board can provide vaccinations, but relying on this is not generally a sustainable strategy
- **High production costs**: Production costs have risen due to rising costs of feed and power. Small flock sizes can be inefficient
- **Start-up**: Initial funds and land required to built chicken shed
- **Seasonal fluctuation in demand**: Typically higher during Easter and Christmas
- **Theft**: Security precautions necessary

Source: Interviews; thepoultrysite.com
Layers and broilers appear to have similar profitability. The local market for eggs/meat will determine which is the better business.

### Poultry keeping

**Outline business plan**

<table>
<thead>
<tr>
<th>Layers</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start-up:</td>
<td>Shed</td>
<td>250k</td>
</tr>
<tr>
<td></td>
<td>Layers</td>
<td>300k 3k RWF x 100</td>
</tr>
<tr>
<td>Recurring:</td>
<td>Feed</td>
<td>500k 5k RWF x 100</td>
</tr>
<tr>
<td>(per yr)</td>
<td>Vaccinations</td>
<td>10k</td>
</tr>
<tr>
<td></td>
<td><strong>Total: 510k</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td>Egg sales</td>
<td>1,750k 50 RWF/egg x 100 layers x 350 eggs/year</td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td>1,240k Excl. labour and start-up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Broilers</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start-up:</td>
<td>Shed</td>
<td>250k</td>
</tr>
<tr>
<td></td>
<td>Chicks</td>
<td>60k 600 RWF x 100</td>
</tr>
<tr>
<td>Recurring:</td>
<td>Feed</td>
<td>60k 600 RWF x 100 (every 6 weeks)</td>
</tr>
<tr>
<td>(every 6 weeks)</td>
<td>Vaccinations</td>
<td>10k</td>
</tr>
<tr>
<td></td>
<td><strong>Total: 130k</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td>Broiler sales</td>
<td>300k 3k RWF x 100</td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td>170k Every 6 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,470k Per year (assuming year round market)</td>
</tr>
</tbody>
</table>
Demand for pigs is reportedly high in STRYDE districts

**Pig keeping**

**Opportunity**

- Pigs have the advantages of being quick breeding and relatively easy to keep
- Demand is generally high, and pigs can be sold to restaurants, bars and hotels

**Outline business plan**

<table>
<thead>
<tr>
<th>Costs:</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>300k</td>
<td>10 x 30k RWF</td>
</tr>
<tr>
<td>Sties</td>
<td>200k</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>500k</strong></td>
</tr>
<tr>
<td><strong>Recurring:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed</td>
<td>500k</td>
<td>Supplemented by waste food</td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-6 months:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piglets</td>
<td>600k</td>
<td>4 40 x 15k RWF</td>
</tr>
<tr>
<td>Manure</td>
<td>20k</td>
<td></td>
</tr>
<tr>
<td>6-12 months:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piglets</td>
<td>600k</td>
<td>4 40 x 15k RWF</td>
</tr>
<tr>
<td>Manure</td>
<td>20k</td>
<td></td>
</tr>
<tr>
<td>Pigs</td>
<td>270k</td>
<td>10 x 27k RWF</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>1,510k</strong></td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>1,010k</strong></td>
</tr>
</tbody>
</table>

Excl. labour and start-up

**Challenges and risks**

- **Start-up capital:** To buy pigs and construct sties
- **Technical knowledge:** Youth need to be trained on how to look after, feed and breed pigs
- **Disease:** Veterinary treatment may be required to treat disease
Rabbits are relatively easy to keep and breed rapidly, making it a profitable activity.

**Rabbit keeping**

**Opportunity**
- Rabbits can easily be kept by youth, as they are quick breeding, relatively easy to maintain and start-up costs are low.
- Markets include local open markets and restaurants.

**Challenges and risks**
- **Start-up capital**: To buy rabbits and construct housing.
- **Technical knowledge**: Youth need to be trained on how to look after, feed and breed rabbits.
- **Disease**: Veterinary treatment may be required to treat disease.

**Outline business plan**

<table>
<thead>
<tr>
<th>Costs:</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young rabbits</td>
<td>200k</td>
<td>100 x 2k RWF</td>
</tr>
<tr>
<td>Housing</td>
<td>100k</td>
<td></td>
</tr>
<tr>
<td></td>
<td>300k</td>
<td></td>
</tr>
<tr>
<td><strong>Recurring:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed</td>
<td>1,095k</td>
<td>30 RWF/day x 100 x 365</td>
</tr>
<tr>
<td>Medicine</td>
<td>75k</td>
<td>1,170k</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby rabbits</td>
<td>3,648k</td>
<td>95 does x 8 babies/month x 12 months x 400 RWF/baby</td>
</tr>
<tr>
<td>Initial stock</td>
<td>200k</td>
<td>3,848k</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,678k</td>
<td>Excl. labour and start-up</td>
</tr>
</tbody>
</table>

**Outline business plan**

- **Opportunity**: Rabbits can easily be kept by youth, as they are quick breeding, relatively easy to maintain and start-up costs are low.
- **Challenges and risks**:
  - **Start-up capital**: To buy rabbits and construct housing.
  - **Technical knowledge**: Youth need to be trained on how to look after, feed and breed rabbits.
  - **Disease**: Veterinary treatment may be required to treat disease.
Trading livestock is also a potential opportunity

**Goat trading**

### Opportunity
- Differences in supply and demand lead to price differences between markets in STRYDE regions, which youth can exploit by trading
- Demand also exists at restaurants, hotels and bars

### Challenges and risks
- **Start-up capital**: Required to hire vehicle and for working capital
- **Market knowledge**: Relationships with buyers and sellers, and knowledge of local markets
- **Transport**: Poor roads create difficulties in accessing disparate farms and markets
- **Price volatility**: leading to trading unpredictability

### Costs:

<table>
<thead>
<tr>
<th></th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up</strong></td>
<td>Initial stock</td>
<td>1,200k</td>
</tr>
<tr>
<td><strong>Recurring</strong></td>
<td>Truck hire</td>
<td>240k</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>Goat trading profits</td>
<td>2,880k</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td></td>
<td>2,640k</td>
</tr>
</tbody>
</table>

Outline business plan
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Agriculture
    - Food crops
    - Cash crops
    - Livestock
      - Goats, poultry, sheep, rabbits, pigs
      - Dairy
        - Beekeeping
        - Fishing and fish farming
  - Non-agriculture
- Issues and approaches
- Appendix
The development of Rwanda’s dairy sector has been supported by Government initiatives and has led to a large increase in milk production.

**Milk production**

Thousands of tonnes

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>06</th>
<th>07</th>
<th>08</th>
<th>09</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>150</td>
<td>180</td>
<td>200</td>
<td>250</td>
<td>300</td>
<td>350</td>
</tr>
</tbody>
</table>

**Industry strengths**

- **Growing demand for milk and other dairy products**
- **Dairy** is one of the most cost-effective methods of converting scarce land, crude and improved feed resources into high quality protein-rich food.
- **Government support** aimed at empowering the poor to keep dairy cattle:
  - Encouragement for farmers to adopt zero-grazing systems because of land scarcity.
  - Introduction of better breeds through “one cow per family” programme, aiming to distribute dairy cattle all over the country.
- **Numerous donor projects** supporting the dairy industry.
- **Developing production facilities**
  - Nyanza dairy has a capacity of 15k litres and is only operating at 20% capacity. It produces fermented milk, cheese and yogurt.

Source: Rwanda Statistical Yearbook 2011; SNV
There are a number of constraints in the industry which may present opportunities for youth

- **Lack of quality feeds**: High quality feeds, especially good quality roughages and supplementary concentrates, are generally not available to farmers
  - This leads to poor milk production, especially during periods of drought when grazing is difficult, and prolonged calving intervals

- **Lack of access to markets**: Around 40% of milk produced does not reach the market and is consumed at home or lost through wastage, due to:
  - Poor infrastructure, especially road networks between production areas and the market
  - Dairy farmers depending on bicycle transporters who buy milk at low prices and often on credit. Often farmers are not paid with the excuse that milk got spoiled before it was sold.

- **Low quality milk**: Low quality of milk renders it to quick spoilage and being unacceptable even where markets are accessible. Factors contributing to poor quality include:
  - Poor hygienic conditions at farm level
  - Poor quality of milk pails and containers used to transport milk
  - Time it takes for the milk to reach the final buyer
  - Lack of knowledge on minimum hygienic milking conditions

- **Lack of veterinary services**: Veterinary services are lacking or come very late
  - There is generally a lack of critical mass of animals to justify a private veterinary service provider to invest in rural areas
  - Veterinary providers located in towns can be unresponsive and ill-equipped

Source: FAO; SNV; Interviews
There are youth entrepreneurship and employment opportunities at multiple stages of the value chain.

### Dairy value chain

- **Feed providers**
  - Informal (~90%)
  - Formal (~10%)

- **Dairy farmers**

- **Brokers, traders, transporters, hawkers**

- **Milk kiosks**

- **Coops, brokers**

- **Processors**

- **Retail**

- **End consumers**

- **Agro-vets, AI-service providers**

- **Biogas collection**

**Key:**
- Blue boxes: Youth entrepreneurship opportunities
- Red boxes: Youth employment opportunities
- Major opportunities

Source: TechnoServe EADD Programme
In most STRYDE regions, there is the opportunity for youth to produce feed for dairy cows

**Opportunity**
- High quality feeds are generally not available to farmers, who tend to rely on grazing
  - This leads to poor milk production, especially in periods of drought, and prolonged calving intervals
- In most STRYDE regions, there is an opportunity for youth to meet this industry need by producing feed and selling to local dairy farmers in dry periods

**Challenges and risks**
- **Land availability:** Feed production and storage relies on land being available for youth to rent or borrow from parents
- **Start-up capital:** Approx. 70k RWF required to rent land, and buy seeds and fertiliser
- **Farmer reluctance to pay for feed:**
  - Farmers may not recognise the benefits of better quality feed
  - In periods of ample rainfall, farmers may prefer to let cattle graze
- **Marketing and sales:** youth require links with local dairy farmers to sell feed, and ability to transport feed to farmers
- **Demand volatility:** Demand will be higher in drought periods

Source: Interviews
This appears to be a very profitable opportunity, assuming healthy demand for feed.

### Feed providers

#### Costs:

<table>
<thead>
<tr>
<th>Recurring</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeds</td>
<td>15k</td>
<td>3 x 5,000 per seed sachet</td>
</tr>
<tr>
<td>Land rental</td>
<td>25k</td>
<td>Per acre</td>
</tr>
<tr>
<td>Fertiliser</td>
<td>30k</td>
<td>50kg</td>
</tr>
<tr>
<td>Transport</td>
<td>?</td>
<td>To transport bails to farmers</td>
</tr>
<tr>
<td></td>
<td>70k</td>
<td></td>
</tr>
</tbody>
</table>

#### Revenue:

| 3-4 months | 1\textsuperscript{st} harvest | 300k | 300 bails x 1,000 RWF |
| 1-2 months | 2\textsuperscript{nd} harvest | 400k | 400 bails x 1,000 RWF |
| 1-2 months | 3\textsuperscript{rd} harvest | 400k | 400 bails x 1,000 RWF |
|            |                            | 1,100k |       |

#### Profit:

| Profit   | 1,030k | 1\textsuperscript{st} year profit per acre excl. labour |

Outline business plan

Source: Interviews
Milk transport and trading is a relatively easy activity for youth involvement

**Milk transporters and traders**

**Opportunity**
- Transportation of milk from farmer to chilling plant or to market is usually by bike or donkey cart in STRYDE regions
- Youth can get involved in:
  - Transporting milk from the farm gate
  - Buying and selling milk at local markets: there is often a large price difference within regions
- Transporters buy milk at 7-8 am and deliver by 9-10am, leaving the rest of the day free

**Challenges and risks**
- **Start-up capital**: To buy bicycle or vehicle, and working capital to buy milk: most transporters pay cash to producers, some extend cash advances
- **Handling**: Milk can spoil easily if not handled correctly
- **Transport**: Poor road quality, especially in the rainy season, and high fuel prices
- **Production and price volatility**: Could lead to business unpredictability
- **Market knowledge**: Successful transporters need relationships with buyers and sellers, and knowledge of local markets to make profits trading

**Outline business plan**
- **Costs**: Bicycle: 20-30k RWF
- **Revenue**: Bicycle transporters carry a maximum of ~100 litres over 10-30km
  - Earn a margin of ~25RWF/litre
  - Profit of 2,500 RWF per day, or 50,000 RWF per month
Other opportunities in the dairy sector are generally more limited

### Entrepreneurship opportunities

| Dairy farmers | Requires grazing land or feed. Reportedly not very profitable  
|               |   • High volatility of milk price causes unpredictability  
|               |   • High risk of disease necessitates insurance |
| Biogas collection | Biogas collection facilities can be constructed for ~400k RWF  
|               | However, the technology has limited demonstrated success, amidst technical problems with reliability and high costs of storage |
| Milk kiosks | The informal sector relies on milk kiosks to sell unprocessed milk  
|              | Generally an accessible area for youth involvement |

### Employment opportunities

| Agro-vets & AI service providers | There is reportedly strong demand for veterinary and artificial insemination (AI) services.  
|                                 |   • However, the skills and knowledge required are quite specialised, so opportunities are probably limited to employment rather than youth entrepreneurship |
| Coops & brokers | Employment opportunities throughout the formal processing chain, in plant work, quality control, administration, value addition, marketing etc. |
| Processors & retail | |
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- Issues and approaches
- Appendix
Beekeeping is a traditional Rwandan activity, accessible to youth farmers, which has potential to be increasingly commercialised.

It is estimated that there are c. 45,000 active beekeepers managing c.90,000 hives, mainly traditional, across Rwanda.
- It is estimated 60% are male, 20% female and 20% youth.

Beekeeping plays a beneficial role in the livelihoods of the rural communities through:
- Income generating activity, accessible to youth
- Low-investment and low-input business
- Medicinal value of honey and other hive products
- Supports agricultural activities through cross pollination, improving crop and seed yield
- Contributes to forest conservation efforts

Despite this, the sub-sector remains largely underdeveloped.
- Beekeeping is still carried out as an indigenous activity mostly passed down through generations.
- Most beekeepers have not fully appreciated its potential and value as a commercial enterprise.

Honey production
Thousands of tonnes

Source: Rwanda Statistical Yearbook 2011; SNV
The beekeeping value chain is relatively undeveloped, but demand is generally strong.

- **Cultivation**
  - Production is mainly (c.90%) with traditional log, grass and bark hives
    - Average farmer owns 2.6 hives, in high potential areas
    - Average yield is 3.5kg per season from traditional hives
  - Few farmers use modern hives
    - Typically produce 14kg per season
    - Cost $45-65

- **Collection and trade**
  - Collection and trade involves 3 main players:
    - Co-operative societies
    - Local retailers
    - Commercial bulking agents / middlemen who buy at the farm gate
  - Primary transportation is mostly by bicycle, packing the raw honey in plastic containers

- **Processing and retail**
  - The main market for bulked honey is Kigali with some of it finding its way back to the larger towns.
  - In Kigali honey is used by food processing, liquor and pharmaceutical companies.
  - The bulking agents and farmer based co-operatives market honey to processing companies and retail stores

Source: SNV - Beekeeping/Honey Value Chain Financing Study Report
Beekeeping is a profitable activity, if start-up costs can be met, particularly considering the low time commitment involved.

**Beekeeping**

- **Opportunity**
  - Modern hives, although more expensive, increase yields and make harvesting easier
  - After hive set-up, honey production does not require much time or attention
  - Opportunities for value addition may exist in packaging and marketing
  - Beekeeping also supports other agricultural activities through cross pollination, improving crop yields

- **Challenges and risks**
  - **Start-up capital**: To buy modern hives
  - **Training**: Techniques in looking after bees and harvesting honey
  - **Perception**: View that beekeeping is an activity for the older generation

- **Outline business plan**
  - **Costs**: Hive 30k RWF
  - **Revenue**: Honey sales 60k RWF = 60kg/year x 1k RWF/kg

Source: Interviews

---

**TechnoServe**

**Business solutions to poverty**
Agenda

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  - Bookkeeping
  - Fishing and fish farming
- Issues and approaches
- Appendix

TechnoServe
Business Solutions to Poverty
Fish production in Lake Ruhondo has increased rapidly and presents an opportunity for local youth groups.

### Opportunity
- Registered youth groups can apply for licences from the Government to fish in Lake Ruhondo
  - The number of licences available is not currently restricted
- Local demand for fish is reportedly strong, particularly in hotels in Musanze

### Outline business plan
- **Costs:**
  - Boat and nets: 600k RWF
  - Transport and sales: ?
- **Revenue:**
  - Fish sales: 4,000k RWF
t    = 10kg/day x 2k RWF/kg x 200 days/yr

### Fish production in Musanze

<table>
<thead>
<tr>
<th>Year</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>200</td>
</tr>
<tr>
<td>2007</td>
<td>100</td>
</tr>
<tr>
<td>2008</td>
<td>250</td>
</tr>
<tr>
<td>2009</td>
<td>200</td>
</tr>
<tr>
<td>2010</td>
<td>500</td>
</tr>
</tbody>
</table>

Source: Rwanda Statistical Yearbook 2011
Fish farming could be a youth opportunity, given access to a suitable site and start-up capital.

**Fish farming**

**Opportunity**
- Fish farming is suited to most STRYDE regions near rivers:
  - Warm water culture of tilapia, African catfish and carp in low land areas
  - Cold water Rainbow trout in highland areas
- Fish farming can be done in purpose-dug ponds or in cages placed in rivers

**Challenges and risks**
- **Suitable site requirement**: Requires ownership of land in a suitable location
- **High start-up capital**: Initial investment to build pond
- **Environmental checks**: REMA has strict environmental standards which would need to be satisfied
- **Market**: Youth should check there is a good market for fish in their area
- **Technical knowledge**: Arguably more complex than other livestock production with diverse breeds requiring different feeding, breeding and water quality
- **Disease and predators**: e.g. kingfishers, pelicans, herons

Source: Interviews
Fish farming appears to be profitable, and can pay back start-up costs quickly

<table>
<thead>
<tr>
<th>Costs:</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pond construction</td>
<td>400k</td>
<td>Youth can participate in digging pond</td>
</tr>
<tr>
<td>Equipment</td>
<td>80k</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>480k</td>
<td></td>
</tr>
<tr>
<td><strong>Recurring:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tilapia fingerlings</td>
<td>40k</td>
<td>2,000 x 20 RWF</td>
</tr>
<tr>
<td>Bran feed</td>
<td>80k</td>
<td></td>
</tr>
<tr>
<td>Fertiliser</td>
<td>15k</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>135k</td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tilapia sales</td>
<td>1,500k</td>
<td>1,000 x 1.5k RWF/fish</td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td>1,365k</td>
<td>Excluding start-up costs and labour</td>
</tr>
</tbody>
</table>
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Agriculture
  - Non-agriculture
- Issues and approaches
- Appendix
## Non-agricultural youth opportunities

<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
<th>Musanze</th>
<th>Gakenke</th>
<th>Ruhango</th>
<th>Nyanza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport</td>
<td>Bicycles, motos, mechanics, bus companies</td>
<td>🟢🟢🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>ICT/Telecoms</td>
<td>Sales for phone companies, phone repair shops, cyber cafes</td>
<td>🟢🟢🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Construction</td>
<td>Labourers, carpentry, welding, brick-making</td>
<td>🟢🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Services</td>
<td>Restaurants, bars, hotels, salons</td>
<td>🟢🟢🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Tourism</td>
<td>Artisans, porters, tour operators</td>
<td>🟢🟢🟢</td>
<td></td>
<td></td>
<td>🟢</td>
</tr>
<tr>
<td>Mining</td>
<td>Tin, coltan, tungsten</td>
<td></td>
<td>🟢🟢🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
<tr>
<td>Finance</td>
<td>Savings clubs, SACCOs, MFIs</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
<td>🟢</td>
</tr>
</tbody>
</table>
Riding motorcycle taxis is a popular activity for young people in many STRYDE regions.

**Motorbike transporters**

- Opportunity
  - Youth provide transport services for passengers and goods, particularly in rural areas where there are few transport alternatives and road quality is poor
  - Opportunity to form co-ops to share jobs and save together
  - Can also use motorbike expertise to set up repair / spare parts shops

- Challenges and risks
  - **Over-supply**: Already a popular career choice with young males in STRYDE regions, leading to high competition and lower revenues
  - **Uncertainty of revenue**: High variability of daily income, dependent on local events e.g. markets, and trading opportunities
  - **Transport**: Poor road quality, especially in the rainy season, and high fuel prices
  - **Security and safety**: Risk from thugs and road accidents
  - **Start-up capital**: To purchase motorbike

- Outline business plan
  - **Costs**: Motorbike: ~500k RWF to buy
    ~3,000 RWF/day to hire
  - **Revenue**: 2k – 20k RWF per day: market days tend to be more lucrative
The increasing popularity of the internet presents an opportunity for youth to start cyber cafes

**Cyber cafe**

<table>
<thead>
<tr>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>The increasing popularity of the internet presents an opportunity for youth to start cyber cafes</td>
</tr>
<tr>
<td>MFIs would typically lend to a group of 2 or 3 individuals</td>
</tr>
<tr>
<td>There are opportunities for ancillary revenue from printing, copying, scanning, laminating, binding, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilities</strong>: Reliant on electricity and internet connections. Power and internet outages can lead to loss of revenues</td>
</tr>
<tr>
<td><strong>Start-up costs</strong>: significant start-up costs of ~500k RWF for computers, furniture etc.</td>
</tr>
<tr>
<td><strong>Competition</strong>: While significant unmet demand reportedly exists in STRYDE regions, cyber cafes are a popular business which can easily be copied. Over-supply could lead to a rapid decline in revenues</td>
</tr>
<tr>
<td><strong>Security</strong>: Risk of theft of equipment</td>
</tr>
</tbody>
</table>
Assuming sufficient demand, cyber café operation can be very profitable

### Cyber cafe

<table>
<thead>
<tr>
<th>Costs:</th>
<th>Amount (RWF)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Start-up:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td>450k</td>
<td>3 x 150k per computer</td>
</tr>
<tr>
<td>Printer</td>
<td>80k</td>
<td></td>
</tr>
<tr>
<td>Furniture</td>
<td>25k</td>
<td>Seats, desks, fittings, shop front</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>555k</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Recurring:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rent &amp; utilities</td>
<td>30k</td>
<td>per month</td>
</tr>
<tr>
<td>Internet</td>
<td>50k</td>
<td>per month</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>80k</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Revenue:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web surfing</td>
<td>400k</td>
<td>1,500 RWF/hour x 4 hours/day x 22 days/mo</td>
</tr>
<tr>
<td>Copying</td>
<td>7k</td>
<td>15 RWF x 20 copies/day x 22 days/mo</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>407k</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Profit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>327k</strong></td>
<td>Monthly profit excl. start-up costs</td>
</tr>
</tbody>
</table>

Source: Interviews
Construction, particularly on Government projects, present a youth employment opportunity

**Construction**

<table>
<thead>
<tr>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government construction projects, such as road building, fencing, landscaping etc. present an opportunity for youth employment</td>
</tr>
<tr>
<td>• Government policy prioritises youth for such work</td>
</tr>
<tr>
<td>• Much of it is relatively basic and does not require specialist skills</td>
</tr>
<tr>
<td>Brick-making is a related entrepreneurial activity</td>
</tr>
<tr>
<td>• Involves mixing clay with water and sand, pressing into a mould and baking in a kiln</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Challenges and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lack of experience</strong>: Difficult for youth to win contracts without prior experience</td>
</tr>
<tr>
<td><strong>Skills</strong>: Youth require basic construction skills and good work ethic</td>
</tr>
<tr>
<td><strong>Low wage</strong>: Poorly paid</td>
</tr>
<tr>
<td><strong>Lack of opportunities</strong>: Prospects depend on local Government building programs</td>
</tr>
</tbody>
</table>
Tourism and related services have been growing strongly, particularly in Musanze.

The number of visitors to Rwanda has been growing at 6% per year. Tourism largely centres around gorilla tracking, but also includes other National Parks and culture. This could create youth employment opportunities:

- Hotels, campsites, restaurants and bars in Musanze and other towns
- Eco-tourism: nature trails, sport fishing
- Artisans selling handicrafts

**Opportunity**

**Challenges and risks**

- **Lack of opportunities**: Number of tourists, and therefore number of employment opportunities, is limited
- **Seasonality**: Number of visitors is highly seasonal
- **Tourism volatility**: Tourism susceptible to shocks including terrorism and political instability

Source: NISR
Mining is a major industry and a large youth employer, particularly in Gakenke and Ruhango.

Mining exports are Rwanda’s biggest single export product, bringing in $68m in 2010:
- Rwanda is the second biggest tin producer in Africa and is among the world’s top 10 tungsten producers
- Mining employs ~35,000 people

With its importance for Rwanda as a source of Foreign Direct Investment, mining is now a priority export sector:
- The mining sector was recently privatised, which has improved production, productivity and value addition
- Rwanda Development Board promotes Rwanda as a destination for mining investment and exploration
- The Government has also established a legal and institutional framework to improve geological knowledge, investment conditions and value addition

Artisanal mining remains dominant in Rwanda, with few industrial and semi-industrial mining activities.
- There are few exploited reserves with sufficient production for industrial mining, though knowledge of reserve potential in the country is lacking.

Source: NISR; Rwanda National Export Strategy
Group saving can generate a return on savings, whilst also helping members to finance new businesses

**Table banking**

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Challenges and risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Youth groups can set up “merry-go-round” savings schemes, where each member contributes an amount each month to build up a central pool of money.</td>
<td>- <strong>Defaults</strong>: Risk of borrowers defaulting on loans, especially in difficult economic conditions (e.g. drought leading to failed harvests).</td>
</tr>
<tr>
<td>- Money can then be lent to group members or others, to support start-up businesses, which provides a service to the community and can generate a return on the investment.</td>
<td>- <strong>Inflation</strong>: High inflation devalues savings and requires high interest rates to make a return.</td>
</tr>
<tr>
<td>- Groups generally have a loan committee, which is responsible for approving loans and dispersing money.</td>
<td>- <strong>Group politics</strong>: Requires strong and disciplined leadership.</td>
</tr>
<tr>
<td>- Groups can register to be a rural SACCO with the Ministry of Cooperatives.</td>
<td>- <strong>Corruption</strong>: Potential for money to be mishandled.</td>
</tr>
</tbody>
</table>

**Savings**: Relies on group members being able to set aside small amounts each month.
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
  - Issues and approaches
- Appendix
Youth leaders cite a number of challenges in raising youth employment and entrepreneurship

### Challenges to finding employment
- Lack of **ambition** / disillusionment with opportunities available
  - Educated youth want white collar jobs and move to cities, leading to “brain drain”
  - Problems with drink and drug use
- Lack of **education** and **skills** amongst youth
- Lack of **opportunities** in local industries and companies
  - Youth not aware of the opportunities that do exist
- Poor perception of **youth work ethic** amongst employers
  - Youth lack employment experience needed to get first job
- Lack of a fixed address can make employing youth more risky for employers

### Challenges to entrepreneurship
- Lack of **entrepreneurial culture**
  - Fear and uncertainty of new ventures
  - Youth not used to saving for future investments
- Lack of **ideas** and business plan development
  - Youth lack exposure to successful businesses
- Lack of organisation / **youth groups**
  - Many youth are not in groups, which creates difficulties in accessing resources and finance
  - Internal politics / leadership problems in groups that do exist
- Lack of access to cheap **finance**
  - Youth lack collateral and guarantors to get loans

Source: Interviews
There are also several key barriers to youth involvement in farming

<table>
<thead>
<tr>
<th>Challenges to youth involvement farming</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Status of agriculture as a career</strong></td>
<td>Farming thought of as subsistence, rather than an income generating business. Youth not motivated to be involved in farming since their parents still struggling with poverty after years of agriculture as their source of income. Perceived by youth as being hard work and tedious.</td>
</tr>
<tr>
<td><strong>Land availability</strong></td>
<td>Parents are generally reluctant to pass on land to children. Youth have to either buy or rent farm land, which is often not be available nearby.</td>
</tr>
<tr>
<td><strong>Low productivity of traditional farming</strong></td>
<td>Lack of or inappropriate use of fertilisers, pesticides, crop rotation, irrigation, greenhouses etc. Poor post-harvesting techniques leading to high losses.</td>
</tr>
<tr>
<td><strong>Difficulty in accessing markets for produce</strong></td>
<td>Inability to time markets and store crops leaves farmers subject to price volatility.</td>
</tr>
</tbody>
</table>

Source: Interviews
Interviewees have offered a range of advice for budding entrepreneurs.

### Successful entrepreneurship

#### Seek specialist advice
- Various organisations can provide invaluable advice to youth groups, e.g.:
  - Research foundations and Government organisations
  - Private sector
  - Role models & mentors

#### Market research
- Youth should do careful market research before starting a business, including:
  - Identify markets and how to maximise the price
  - Talking to customers to understand their needs
- Local knowledge is key

#### Originality
- Good businesses suffer in some regions as youth copy each other, leading to oversupply
- Youth should be encouraged to be original, through:
  - Brainstorming and idea generation
  - Field trips to other areas to gain exposure

#### Ownership
- Youth groups must choose their own business ideas:
  - Taking ownership of their own idea is likely to generate more enthusiasm and engender responsibility
  - Dictating ideas is likely to be counter-productive

Source: Interviews
Interviewees also offered advice on entrepreneurship philosophy and the approach STRYDE should take to training

<table>
<thead>
<tr>
<th>Entrepreneurship philosophy</th>
<th>STRYDE approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“Start small, think big”</strong></td>
<td><strong>Not “too easy”</strong></td>
</tr>
<tr>
<td>Youth should aim to build up businesses bit by bit, learning from experience to grow over the long term</td>
<td>Handouts and ready-made business ideas tend to make participants lazy</td>
</tr>
<tr>
<td></td>
<td>They should take responsibility for their own success</td>
</tr>
<tr>
<td><strong>Persistence</strong></td>
<td><strong>Learning by doing</strong></td>
</tr>
<tr>
<td>Youth need to be committed and have the persistence to overcome problems without being discouraged</td>
<td>The best lessons are learnt through experimenting and trying out new ideas, rather than being lectured to</td>
</tr>
<tr>
<td><strong>Team work</strong></td>
<td><strong>Competitive</strong></td>
</tr>
</tbody>
</table>
| Youth groups should exploit the advantages of being in a group:  
  - Shared ideas, resources and skills  
  - They should avoid passing off responsibility to others | Youth tend to do better when they see other people being successful |
| | STRYDE should tap into this competitive streak, e.g. through the business plan competition |
Access to finance is a major barrier. Youth groups requiring finance should be encouraged to investigate borrowing options.

**Microfinance Institutions**

- Microfinance institutions (MFIs) are ideal partners to the STRYDE program:
  - They provide finance to youth groups, generally below the market rate
  - They look for youth groups with credible business plans
  - They offer basic financial literacy training

- STRYDE should work to identify barriers that prevent MFIs lending to youth groups and help youth to develop business plans that meet these requirements
Youth groups are often discouraged by high interest rates. They should be encouraged to consider the impact of inflation on their business.

Youth groups are often put off taking loans due to high interest rates.

However, groups with sound business plans may be encouraged to consider the real rate of inflation:

- Real interest rate = Nominal interest rate - expected inflation

The prices of goods sold are also likely to rise with inflation, thus improving the group’s income and ability to pay back the loan:

- The group should be encouraged to consider future changes in the price of their produce and their ability to pay back the loan.

Note: *CPI (Consumer Price Index) measure
Entrepreneurship vs. employment

- There is more value in STRYDE stimulating entrepreneurship rather than employment
  - Employment opportunities are limited and employers do not report difficulties in recruiting suitably qualified youth: therefore vacancies will be filled, regardless of STRYDE impact
  - Entrepreneurship, on the other hand, creates income, jobs and industry which may not have come about without STRYDE impact

Youth group selection

- Consideration should be made of how STRYDE youth groups are selected and engaged
- There are clear incentives for youth trainers to select groups which are:
  - Pre-existing and functional
  - Already engaged in entrepreneurial activities
  - In easily accessible areas
- It is possible that these are the groups least requiring of STRYDE support
  - There are examples of the same group attracting support from multiple Government and NGO programs – STRYDE should guard against aid duplication
- It also raises questions regarding the objectivity of M&E:
  - It is likely that pre-existing, active groups would likely have made some advances without STRYDE support
  - If they are compared against a control group of youth not in active groups, then STRYDE’s impact may be overstated
- There is clearly some value in formation of youth groups from scratch
  - A major challenge for some youth is lack of such groups in which to share ideas and start businesses
  - In future cohorts, STRYDE should try to form more groups, whilst remembering that new groups are likely to be less cohesive initially
Agenda

- Youth Employment in Rwanda
- Overview of STRYDE districts
- Key youth entrepreneurship and employment opportunities
- Issues and approaches

Appendix
<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agri Profocus</td>
<td>Going Local: A report on how Minimex can source from small scale farmers in Rwanda</td>
</tr>
<tr>
<td>FAO</td>
<td>Poultry sector country review – Rwanda</td>
</tr>
<tr>
<td>International Land Coalition</td>
<td>A case study of sugar cane production in rural Kigali</td>
</tr>
<tr>
<td>MINAGRI</td>
<td>Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II</td>
</tr>
<tr>
<td>National Institute of Statistics of Rwanda</td>
<td>National Agriculture Survey 2008</td>
</tr>
<tr>
<td></td>
<td>Labour Market and Economic Activity Trends in Rwanda</td>
</tr>
<tr>
<td>SNV</td>
<td>Investment Opportunities in the Dairy sub-sector of Rwanda</td>
</tr>
<tr>
<td></td>
<td>Beekeeping / Honey Value Chain Financing Study report</td>
</tr>
<tr>
<td>TechnoServe</td>
<td>Dairy Industry in Rwanda: Value Chain Analysis</td>
</tr>
<tr>
<td>USAID</td>
<td>Assessment of Post-harvest Opportunities in Rwanda</td>
</tr>
<tr>
<td></td>
<td>Staple Foods Value Chain Analysis: Country report – Rwanda</td>
</tr>
<tr>
<td></td>
<td>Rwanda Youth Employment Assessment Report</td>
</tr>
<tr>
<td>Umworozi</td>
<td><a href="http://umworozi.com">http://umworozi.com</a></td>
</tr>
<tr>
<td>District</td>
<td>Body</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Musanze</td>
<td>National Youth Council</td>
</tr>
<tr>
<td></td>
<td>National Youth Council</td>
</tr>
<tr>
<td></td>
<td>Remera Youth Office</td>
</tr>
<tr>
<td></td>
<td>Shingiro Youth Office</td>
</tr>
<tr>
<td>Gakenke</td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Youth Council</td>
</tr>
<tr>
<td></td>
<td>Dep. of Youth, Culture and Sport</td>
</tr>
<tr>
<td>Ruhango</td>
<td>To be completed - Vincent</td>
</tr>
<tr>
<td>Nyanza</td>
<td></td>
</tr>
</tbody>
</table>
Erosion control measures are widespread in 3 of the 4 regions

**Agricultural land distribution**
Percent of agricultural land

- Musanze: 37%
- Gakenke: 47%
- Ruhango: 32%
- Nyanza: 31%

**Erosion control methods**
Percent of agricultural land

- Musanze: 30,000 Ha
- Gakenke: 47,000 Ha
- Ruhango: 34,000 Ha
- Nyanza: 37,000 Ha

- None
- Radical terraces
- Anti-erosion hedges
- Anti-erosion ditches

Source: NSIR, National Agriculture Survey 2008
Agricultural workforce:
Activity by age group

<table>
<thead>
<tr>
<th>Age Group</th>
<th>No activity</th>
<th>Other</th>
<th>Artisan or trader</th>
<th>Domestic help</th>
<th>Farm labourer</th>
<th>Farm home help</th>
<th>Farmer</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>15%</td>
<td>25%</td>
<td>10%</td>
<td>6%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>20-24</td>
<td>10%</td>
<td>30%</td>
<td>15%</td>
<td>8%</td>
<td>22%</td>
<td>12%</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>25-29</td>
<td>15%</td>
<td>25%</td>
<td>10%</td>
<td>6%</td>
<td>20%</td>
<td>10%</td>
<td>10%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: NSIR, National Agriculture Survey 2008; Labour Market and Economic Activity Trends in Rwanda

Employment by sector (2006)
Working population

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, fishing, forestry</td>
<td>87%</td>
</tr>
<tr>
<td>Mining &amp; quarrying</td>
<td></td>
</tr>
<tr>
<td>Financial services</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
</tr>
<tr>
<td>Construction &amp; utilities</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
</tr>
<tr>
<td>Trade</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
</tbody>
</table>

Source: NSIR, National Agriculture Survey 2008; Labour Market and Economic Activity Trends in Rwanda
Rwanda
Crop prevalence (2008)
Percentage of farmers planting crops

Cereals:
- Maize: 67%
- Sorghum: 16%
- Wheat: 5%
- Rice: 4%

Tubers:
- Sweet potato: 75%
- Cassava: 52%
- Irish potato: 42%
- Taro: 35%
- Yam: 5%

Pulses:
- Bush beans: 66%
- Climbing beans: 53%
- Peas: 24%

Cash crops:
- Sugar cane: 11%
- Coffee: 7%
- Tea: 1%

Vegetables:
- Vegetables dodo: 46%
- Pumpkins: 29%
- Eggplants: 17%
- Onions: 16%
- Cabbages: 13%
- Tomatoes: 8%

Fruit:
- Cooking banana: 40%
- Beer banana: 34%
- Avocado: 24%
- Papaya: 11%
- Passion fruit: 10%
- Mango: 10%
- Plum of Japan: 8%
- Guava: 7%
- Pineapples: 6%

Note: 2008A season
Source: NSIR, National Agriculture Survey 2008
Rwanda
Annual crop production (2008)
Thousands of tons

**Cereals:**
- Sorghum: 113
- Maize Grains: 79
- Rice: 31
- Wheat: 8

**Tubers:**
- Cassava: 979
- Irish potato: 134
- Sweet potato: 111
- Taro: 3
- Yam: 627

**Pulses:**
- Bush beans: 185
- Climbing beans: 97
- Peas: 14

**Cash crops:**
- Coffee: 28
- Tea: 19
- Sugar cane: 59

**Vegetables:**
- Cabbage: 71
- Maize freshear: 45
- Fresh beans: 44
- Tomato: 41
- Vegetables dodo: 34
- Eggplant: 30
- Squash, pumpkin, marrow: 25
- Sombe: 12
- Other vegetables: 158

**Fruit:**
- Beer banana: 796
- Cooking banana: 668
- Other bananas: 91
- Avocado: 76
- Pineapple: 18
- Other fruit: 30

Source: NSIR, National Agriculture Survey 2008
Rwanda staple food crop land area

Cereals
Thousands of hectares

Tubers
Thousands of hectares

Pulses
Thousands of hectares

Fruit & vegetables
Thousands of hectares

Source: Strategic Plan for the Transformation of Agriculture in Rwanda – Phase II
## Staple food value chains - stakeholders

<table>
<thead>
<tr>
<th></th>
<th>Production</th>
<th>Collection, primary processing, transport</th>
<th>Storage &amp; Milling</th>
<th>Sale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maize</strong></td>
<td>• Cooperatives: ISAR, RADA, IWACU, RDO, BAIR, IMBARAGA</td>
<td>• Unions: RSSP, RIU</td>
<td>• Factories: MINIMEX, MUKAMIRA, COAMV, RDI</td>
<td>• Factories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Traders</td>
<td></td>
<td>• Traders</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• MINICOM</td>
</tr>
<tr>
<td><strong>Wheat</strong></td>
<td>• Cooperatives: UNICOOPAGI, ISAR, RADA</td>
<td>• Cooperatives</td>
<td>• Millers: Nyungwe, SOTIRU, PEMBE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unions: Caritas, RIM, RSSP, RIU</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rice</strong></td>
<td>• Cooperatives: FUCORIRWA, ISAR, RADA, IWACU</td>
<td>• Unions: RSSP, RIU</td>
<td>• Factories</td>
<td>• Factories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Traders</td>
<td></td>
<td>• Traders</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• MINICOM</td>
</tr>
<tr>
<td><strong>Cassava</strong></td>
<td>• Cooperatives: ISAR, RADA, INGABO</td>
<td>• Private sector</td>
<td>• Factories: CIP, ITUZE, MINAGRI, BRD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Factories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cooperatives</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Irish</strong></td>
<td>• Cooperatives: ISAR, RADA, IMBARAGA, BAIR</td>
<td>• Cooperatives: RADA, BAIR</td>
<td>• IMBARAGA</td>
<td>• Cooperatives</td>
</tr>
<tr>
<td><strong>potatoes</strong></td>
<td></td>
<td>• Traders</td>
<td></td>
<td>• Traders: IMBARAGA</td>
</tr>
<tr>
<td><strong>Beans</strong></td>
<td>• Private sector</td>
<td>• Cooperatives</td>
<td>• Traders: WFP – P4P</td>
<td>• Traders, WFP</td>
</tr>
<tr>
<td></td>
<td>• Farmer groups: ISAR, RADA, HarvestPlus, IFDC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: USAID: "Assessment of Post-harvest Opportunities in Rwanda"