ICCO works to give farmers and producers access to local and national markets and the opportunity to build sustainable agricultural systems. The Strengthening African Rural Smallholders (STARS) Program is a five-year (2016 - 2020) program implemented by ICCO in partnership with the Mastercard Foundation. Through a market systems development approach the program focuses on improving access to finance and markets for 210,000 smallholder farmers in Ethiopia, Rwanda, Senegal and Burkina Faso.

In Rwanda, with an outreach target of 49,000 smallholder farmers, STARS partners with five micro-finance institutions (MFIs) and two commercial banks to develop appropriate financial products. These include credit products for maize and rice farmers that take into account the costs of production and the seasonal cash-flow of farmers. STARS also works with key value chain actors (processors, service providers, cooperatives and unions) to strengthen the value chain and create access to markets, skills training, farm inputs and equipment.
Where STARS works on the rice and maize value chains in Rwanda

A Two-Stage Stratified Cluster Sampling was employed for this study.

- Producer organizations were primary sampling units and the households within a producer organization's production area were secondary sampling units.
- Value chain and region were used as stratification.
- A significance level of 0.05 was used.
- We selected four producer organizations and two value chains, for focus group discussions and key informant interviews.

About this report

This report will provide information on smallholder farmer households as actors in market systems in the Western, Southern and Eastern Provinces of Rwanda.

We will present information on:
- Demographics
  - Household characteristics
  - Food security
  - Poverty rates
- Farm Characteristics
  - Access to inputs
  - Access to markets
  - Key agricultural constraints
  - Farmer aspirations
- Access to finance

At the end of the report, the core interventions of the STARS program will be presented.

We collected data from

- **406** Households in Western Province
- **418** Households in Southern Province
- **238** Households in Eastern Province
- **589** Rice Smallholder Farmers
- **8** Focus Group Discussions with 8-10 Farmers in Each Group

- **1,063** Households in Total
- **236** Female Headed Households
- **306** Households Headed by Young Farmers Under 36 Years Old
- **474** Maize Smallholder Farmers
- **16** Personal Interviews
The STARS target group is a diverse group of farmers. Many of them still face challenges with poverty and food security.

Targeted households display a wide range in poverty levels. Over 60% of the STARS farmers have an income above the national poverty line.

The average household size is approx. five. Slightly less than half of the family members earn an income.

Ownership of locally important household items:

- 97% Mosquito net
- 68% Mobile phone
- 53% Radio/tape recorder
- 18% Bicycle
- 18% Solar light/solar panel
- 8% Sofa set
- 4% Television
- 1% Motorbike (small engine)

The percentages are the estimated poverty rates for all smallholder households based on individual poverty likelihoods. The national and international poverty lines are given by the Poverty Probability Index (PPI) for Rwanda (2005).

Many farmers have little formal schooling:

- 23% of farmers have no schooling at all
- 64% of farmers have attended some years of primary education
- In 69% of the households, the oldest female can read and write

37% live on less than $2.50 per day
54% live on less than $1.25 per day
83% live on less than $2.00 per day
94% live on less than $5.00 per day

Many farmers followed at least one type of skills training

- 40% of farmers followed agricultural skills training
- 11% followed financial skills training

Farmers indicated that training and exchange visits facilitated through producer organizations lead to improved farming techniques and increased production.

Farmers indicate they want skills training in:

- Farming skills to increase production
- Post harvest management skills such as quality control
- Business planning
- Financial literacy focusing on Loan management and repayment

Only 16% of the smallholder households are food secure.

As much as 60% of the households face difficulties in accessing food of sufficient quality and quantity.

Food shortages concentrate in the lean seasons:

Western Province: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec
Southern Province: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec
Eastern Province: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

The decreasing size of the symbols indicate that more farmers are experiencing food shortages. Months of Adequate Household Food Provisioning, (MAHFP).
Farmers use farm inputs and access markets but overall still face challenges which affect their yields and sales.

Mean land size that the smallholder uses for cultivation:
- Eastern Province: 0.6 ha
- Western Province: 0.3 ha
- Southern Province: 0.5 ha

In addition to land, farmers also own livestock:
- 46% own a cow
- 43% own a goat
- 24% own a pig
- 8% own sheep
- 28% own chickens
- 8% own a rabbit

Smallholder farmers mainly sell their crops through cooperatives. Maize and rice also play an important role in food security at home.

The following inputs are accessed by farmers but the level of access and quality vary:
- Fertilizer/Manure
- Farm chemicals
- Transport
- Seeds
- Irrigation and harvesting equipment
- Training

The percentage refers to the share of farmers of the sample, not the share of the crop going to a specific channel.
Overall, yields and sales are affected by

<table>
<thead>
<tr>
<th>Issue</th>
<th>Cooperatives</th>
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<tbody>
<tr>
<td>Climate uncertainty associated flooding, droughts and unreliable rainfall</td>
<td>Respecting for the seasonal calendar; planting, harvesting and selling on time; accessing to fertile and large plots of land are key characteristics mentioned by farmers to enhance produce.</td>
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<tr>
<td>Crop affected by Pests and diseases due to the high cost, insufficient, and ineffective pesticides and herbicides</td>
<td>Farmers participating in the focus group discussions</td>
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<tr>
<td>Infertile land due to lack of organic manure to combine with fertilizers</td>
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<tr>
<td>Delayed provision of seeds from service providers which prevent farmers from timely planting</td>
<td>&quot;In most cases, we receive seeds 2 weeks after planting date which negatively affect our production. To mitigate this delay, some farmers prefer to use their own seeds that they have kept for long time and in bad conditions which have a further negative impact on their production&quot;.</td>
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<tr>
<td>Lack of capital to buy inputs such as fertilizer</td>
<td>A farmer from Rutsiro District said during focus group discussions</td>
</tr>
<tr>
<td>Lack of modern agricultural and irrigation equipment</td>
<td></td>
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<tr>
<td>Challenges to access the market due to lack of transportation and poor road conditions</td>
<td>women are carrying yields on their back and transporting them on foot...It takes farmers more than an hour to reach to the markets. Old people suffer a lot, as the transport cost is very high.</td>
</tr>
<tr>
<td>Farmers lose motivation to improve the quality and quantity of their crops due to challenges with their cooperative</td>
<td>Farmers participating in the focus group discussions</td>
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The STARS farmers are members of cooperatives. These are the benefits and challenges related to the functioning of the cooperatives

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Challenges</th>
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<tbody>
<tr>
<td>Access to financial services</td>
<td>Limited management and leadership capabilities</td>
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<tr>
<td>Access to training programs and knowledge sharing</td>
<td>Delayed activities due to slow decision making and a different commitment between members</td>
</tr>
<tr>
<td>Access to quality agri-inputs like seeds, fertilizer, pesticides</td>
<td>Delayed payment from buyers</td>
</tr>
<tr>
<td>Access to markets and receiving a good price</td>
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</tbody>
</table>
Smallholder farmers currently already access credit but the available products and services are not always suitable for their agricultural activities.

Half of farmers save but few keep financial records

Most of the farmers are optimistic about their prospects in farming

“Farming is a good business but to those who do farming using modern techniques”

Farmers participating in the focus group discussions. Kamonyi District

Three quarters of the farmers can only invest in the short term

After making an investment, the farmers need to get their money back:

- 75% within one harvest cycle
- 24% within 2-4 harvest cycles
- 1% could wait longer than 4 harvest cycles

Half of the farmers are willing to invest in their farm and take a risk

- 22% would risk losing their investment if there was a possibility of a high return
- 31% would accept some risk in return for a higher return on their investment
- 47% would accept only a low return on their investment and not take a risk

Farming Gives a Good Life

<table>
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<tr>
<th>Yes</th>
<th>To some extent</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>72%</td>
<td>22%</td>
<td>6%</td>
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</table>
Barriers for women, poor and illiterate smallholder farmers to accessing credit

Female loan applicants are sometimes unable to get a permission for their application from their husbands.
Distance to the branch office, associated with travel time and expenses, can cause additional challenges for poorer farmers and for women.

Illiterate farmers do not understand finance, which leads to poor financial decision making and unwise investments.
Group self-selection can exclude farmers who are not deemed to be responsible, reliable or hard-workers, thus restricting membership of poorer households.

Credit is widely available but not always at the right time, in the right size and with the loan features that are suitable for smallholder farmers.

The financial products should be suitable for the smallholders.

Features that farmers find attractive in a credit product:
- Product features that limit the likelihood to misuse the loan by spending it on other activities
- Low interest rate and loan repayment period that are appropriate to the farmers' needs
- Disbursement period and repayment options are more likely to inform farmers; decision making then interest rates
- The loan size must match investment needs
- Treatment of the farmers and having a sense of respect and understanding, as well as physical proximity, translate into customer loyalty
- Product features that are associated with agri-input such as access to agricultural extension workers and high quality inputs

The percentage refers to the share of farmers in the sample that access credit through a particular source. Community-based informal FSPs includes lending from a community leader, family, an informal money lender and Village Savings and Loans Associations. Community-based formal FSPs include Savings and Credit Cooperatives, farmer cooperatives and government programs. Non community-based formal FSPs include MFIs and Banks.
**The STARS Program in a Nutshell**

**Problems:**

**Immediate problems:**
Micro-finance institutions (MFIs) cannot provide appropriate agricultural loans. POs have little access to big buyers, lack market information, do not have good negotiating skills, and cannot supply the right quantity and quality. Smallholder farmers cannot always access good quality inputs like fertilizer and seeds. They have low farming skills and limited knowledge on irrigation, post-harvest management or use of equipment.

**Key constraints:**
MFIs lack expertise in agri-finance, and do not have sufficient capital for lending. Farmers have limited collateral, and financial skills are low. POs are weak and lack adequate management skills. Agricultural value chains lack coordination between supply and demand. There is a limited availability of extension services, farm equipment, drying and irrigation technologies, and skills training for farmers.

**Long term consequences:**
MFIs cannot properly serve their clients and farmers are defaulting on inappropriate loans. POs face low sales, low prices, and do not have a strong position in the market. Their members are side-selling their crops to passing traders. Smallholder farmers have low yields, little motivation to produce high quality, and face high post-harvest losses. They have low resilience, low income and poor food security.

**Solutions:**

**Agri-loan products and risk assessment tool development and building MFIs capacity on risk management and business planning and training of loan officers**

**Capacity building of POs focusing on management capacity, market access, business planning and operations, financial management, service delivery, gender.**

**Promoting sustainable business development services via embedded services and fee-based services, market information services, extension services, inputs supply.**

**Market access development through establishing market linkages, development of business models and organizing business-to-business events (B2B).**

**Establishing and strengthening input supply systems. We create access to inputs such as fertiliser, pesticides and seeds through B2B event and market linkages.**

**Capital mobilisation through international brokering for the refinancing of MFIs and savings mobilization.**

**Alignment with the enabling environment, and linking to partners that can strengthen the value chain around the developed products and services.**
The STARS Program in a Nutshell

**Partners:**

*Core value chain actors*
- Micro finance institutions
- Producer organizations: Cooperatives, unions, federations
- Investors and refinancers
- Big buyers and processors
- (Non-) governmental organizations (NGOs)

*Chain suppliers*
- Input suppliers
- Seed multipliers
- Mobile network operators
- Equipment suppliers
- Service providers
- NGOs

*Market regulators*
- National and local governments
- Sector platforms for price setting
- Government agencies
- Central bank

*Market facilitators*
- Information exchange and collaboration platforms
- NGOs
- Knowledge institutes
- Statistics office
- Consultancy services

**Outcomes:**

**Short-term changes:**
Smallholder farmers access dedicated loans for agriculture, agri-inputs such as seeds, fertilizer and chemicals, and have received skills training on quality control, price negotiation, post harvest management, agricultural and financial skills.
Farmers have access to market information and as well as access to markets for selling their crops.
Program partners work based on a sustainable business model, can access finance, have increased (risk) management capacity, knowledge of agriculture, and appetite to work with smallholder farmers.

**Long-term changes:**
Farmers improve their yields in quantity and quality, and farm profitability increases.
Agricultural risk assessment tools are institutionalized in MFIs, and credit risk in agri-finance is decreasing. More refinancing becomes available.
POs are able to independently establish business linkages with big buyers.
There is a take up of developed products and services in the wider market and ecosystem.

**Impact:**
Smallholder farmer households increase their income and food security, as well as their well-being.
Partners are inclusive to smallholder farmers and work more client-centric.
Partners grow their business by working with smallholder farmers.
Market constraints excluding smallholder farmers are addressed in sector platforms.
Meet Rose Nyirabarihangana

Rose, a 41-year-old mother of five children, grows rice on 0.2 hectare of farm land in Muhanga District, in the Southern region of the country. She is a smallholder farmer.

Rose has been growing rice since 2008 and her production had never been above 700 kg. In 2017, Rose decided that she could do better and produce a bigger quantity, she just needed cash to invest in better inputs. She decided to join Clecam Ejo Heza micro-finance institution. This MFI is one of the partner MFIs of the STARS program.

With the support of STARS, Clecam Ejo Heza developed specific agricultural loan products suitable for smallholder farmers. Rose was able to get a loan developed under the rice value chain credit products. She got a loan of 150,000 RWF (169 USD) to be paid back at the end of the agricultural season. She invested in buying better inputs such as seeds and fertilizers and applied them as recommended by agronomists.

As a result, her production increased to 1,200 kg. The total revenue was 420,000 Rwandan Francs (411 USD). Rose got enough money to pay back her loan, pay the school fees for her two children and secure food for the family.

Rose is proud of her farming: “Look at my plot, how well maintained, I am so happy that I produced more rice, I am determined to continue improving my agricultural technics, increasing my production and increase my income. I am satisfied with the services I received from Clecam Ejo Heza as they treated me with respect and I will continue to use their services” Rose said.

She hopes to have her family’s home repaired and have access to water near her house at the end of the next season. However, drought is still a big issue as farmers can no longer rely on the weather. She has hopes that the MFI can provide irrigation equipment in the future.