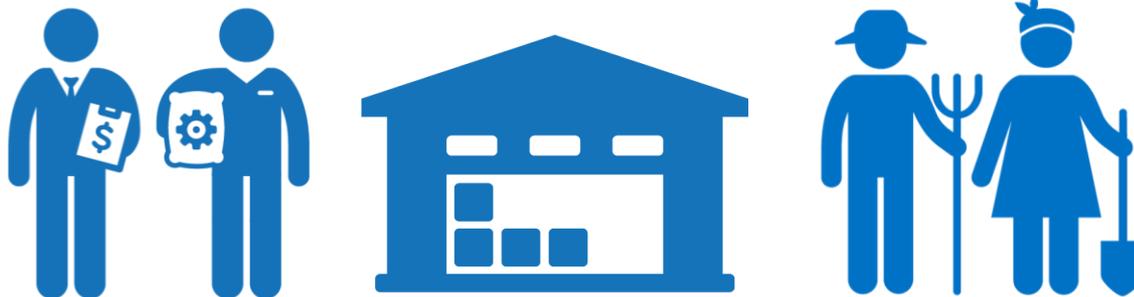


# ECLOF Kenya: Climate Smart Agriculture Dairy Loan

Service Delivery Model Assessment - Public Report  
September 2018



# Purpose and content of this document

The purpose of this document is to provide a synthesis of findings for ECLOF Kenya and the Service Delivery Model (“SDM”) in which its Climate Smart Agriculture dairy loan operates.

SDMs are supply chain structures involving multiple stakeholders providing services to farmers, including training, access to inputs and finance, to improve their productivity, and ultimately their profitability and livelihoods. The SDM methodology applies a data driven and comprehensive approach to the provision of smallholder services, helping partners to think holistically about the service delivery model they operate in, and to identify and systematize the critical ingredients to successfully and sustainably reach smallholders at scale.

In line with the SDM approach, this document provides a quantitative and qualitative analysis of the sustainability of the key actors in ECLOF Kenya Climate Smart Agriculture (“CSA”) Dairy Loan SDM:

- ✓ Financial service provider (“FSP”)
- ✓ Value chain partners (“VCP”)
- ✓ Smallholder farmers

It then brings the three actors together to look at overall sustainability of the SDM and the enabling role of donor funding.

## Content

Context & Overview

Analysis of FSP

Analysis of VCP

Analysis of farmers

Analysis of overall SDM

Conclusions



# Context | ECLOF Kenya and their CSA Dairy Loan

## ECLOF Kenya

Kenyan affiliate of ECLOF International, with a portfolio in excess of 1 billion KES (~10 million USD), 231 million KES (~2.3 million USD) in agriculture



ECLOF Kenya's main business is in micro and small business loans. It has recently identified SME lending and agricultural lending as important priorities in its portfolio, with an objective of reaching 10% and 25% share of portfolio respectively.

Currently a Micro Finance Company Limited by Guarantee, ECLOF Kenya is in the process of becoming a share-holder owned institution, with the objective of becoming a deposit taking institution in the coming years.

ECLOF Kenya has worked with numerous partners, in line with the mission "to enable clients to realize their dreams and experience abundance of life through the provision of financial and related nonfinancial services." These partners include DFID, Kiva, Unilever, Water.org, ORB Energy among others.

## Monthly CSA Dairy Loan

The Monthly Climate Smart Agriculture (CSA) Dairy Loan was established by ECLOF Kenya in 2015 as a pilot program. As of May 2018 the loan serves over 200 farmers, and has a portfolio of ~29 million KES (~290K USD).

### Loan pricing and structure:

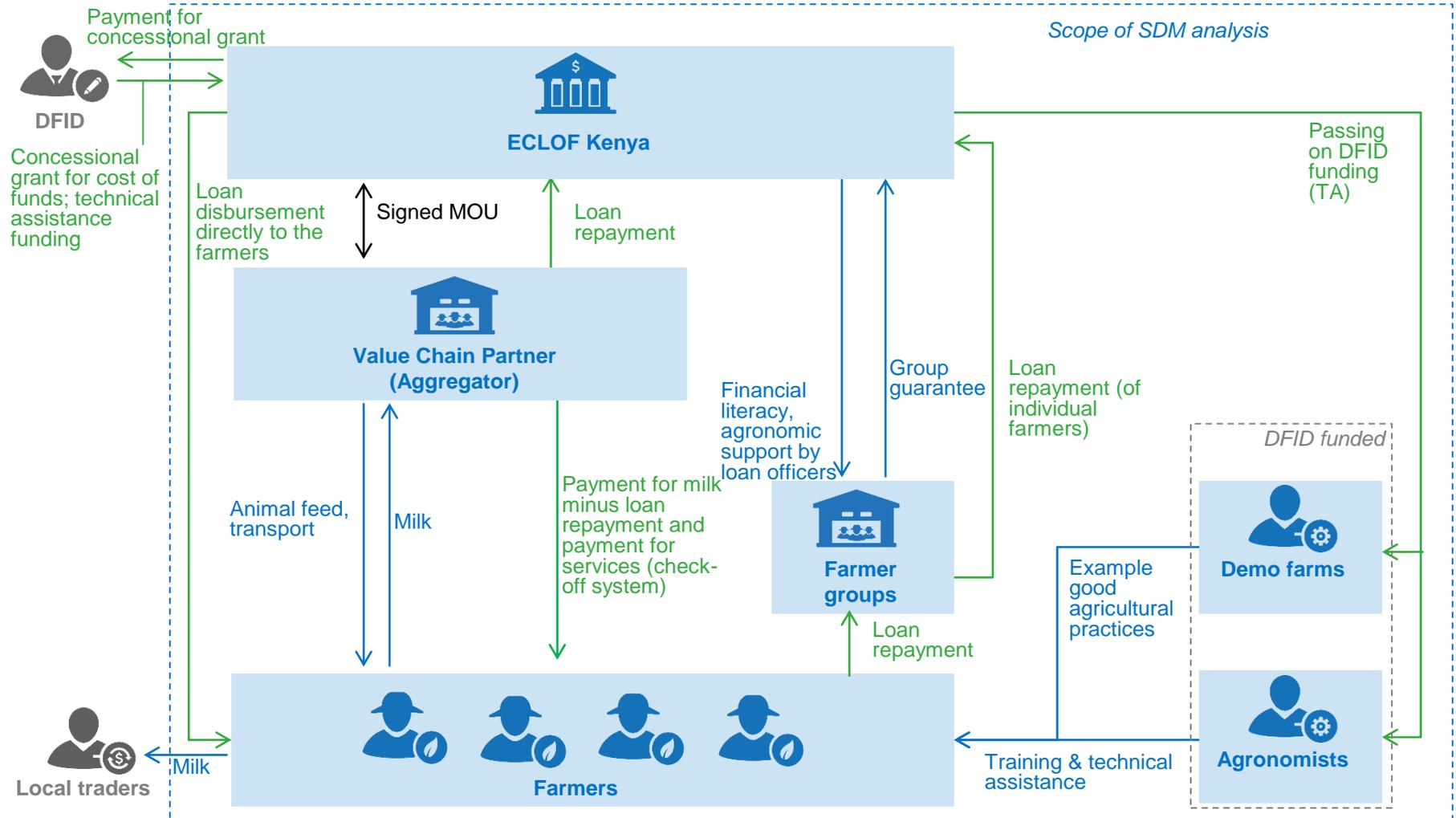
- Three – nine month farmer input loan at below market rate<sup>1</sup> enabled by a repayable grant from DFID to eliminate loan cost of capital. No collateral required, only six weeks of savings and proof of six months of milk deposits to the aggregator.
- Loans are disbursed either directly to the farmer through their loan group, via a combination of various delivery channels e.g., Mobile Money Transfer Platform (M-pesa) and subject to assessment of intended dairy farming expenditures; or through the partner aggregator for feed or purchase of a new cow.
- The loan is repaid monthly through the partner aggregator: the dairy tracks the deposited milk and pays the farmers subtracting the loan repayment.

### Additional services:

- Access to livestock insurance
- Guaranteed off take by the partner aggregator
- Access to climate smart and good agricultural practices training, including farm diversification training, demo farms, and financial literacy training
- Access to veterinary services provided by partner aggregator

<sup>1</sup>Exact rates confidential

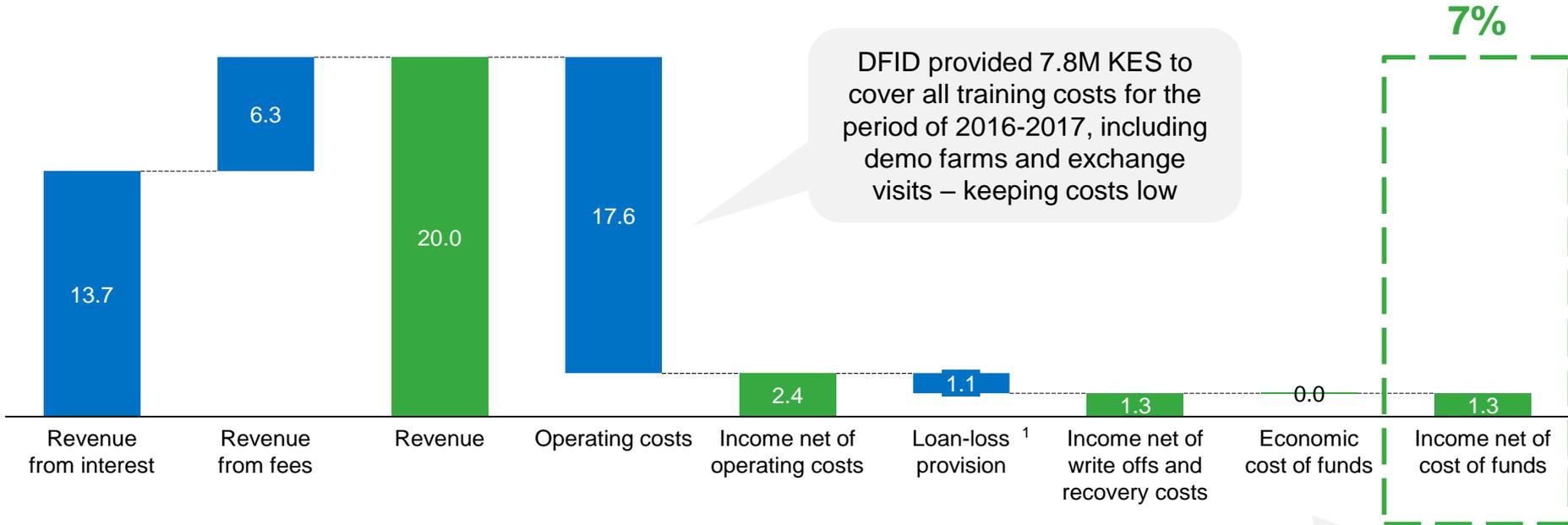
# Overview of services | The CSA dairy loan enables a mix of financial & non-financial services involving numerous stakeholders



**Legend** → Flow of goods and services → Cash flow

# FSP Sustainability | Under its current funding structure, the CSA dairy loan has a positive net margin of 7%

CSA Dairy Product Net Income, April 2015- May 2018 (sum of 853 loans to date)  
MM KES



$\text{Profit Margin} = \frac{\text{income net of cost of funds}}{\text{revenue from interest and fees}}$

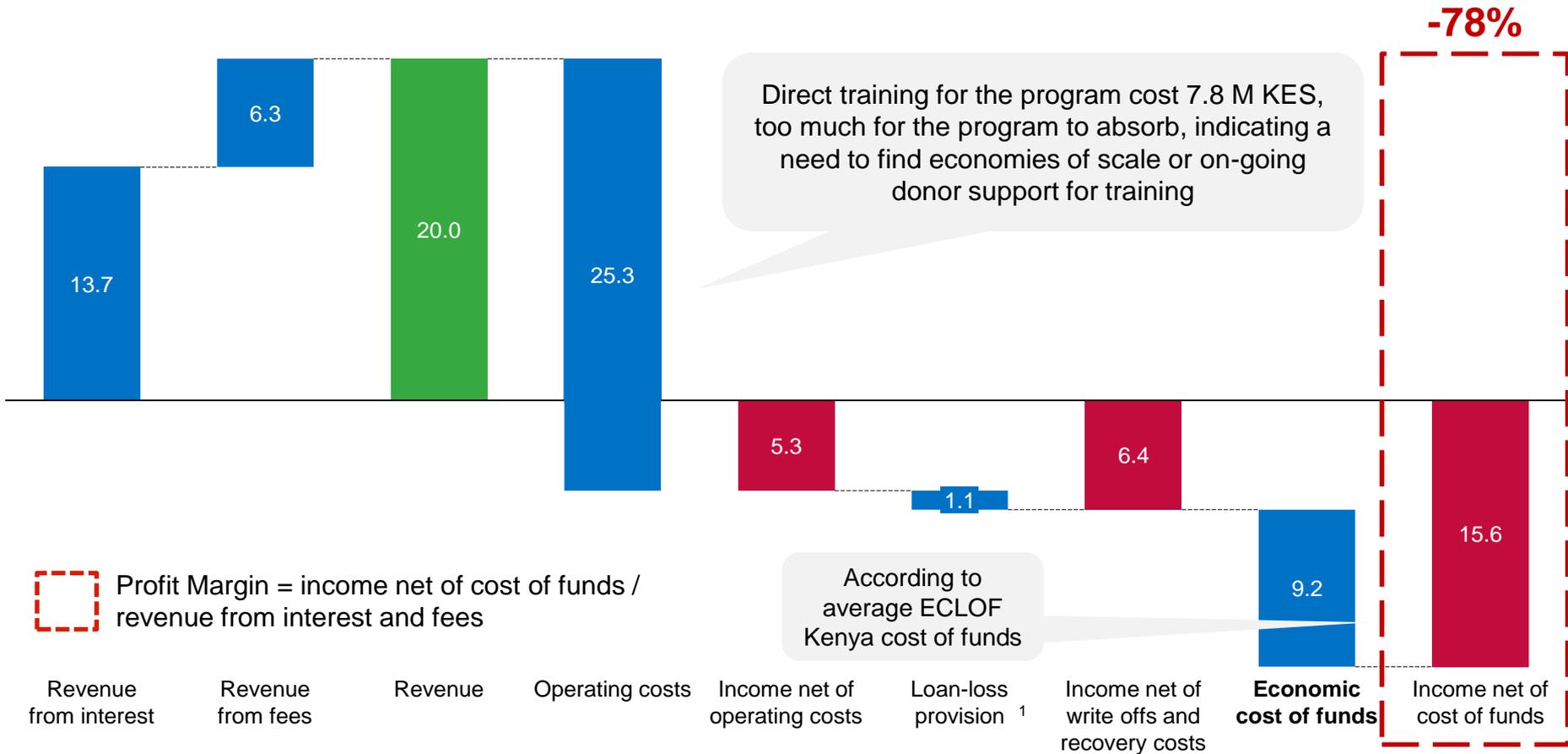
DFID provides grant financing to remove the cost of funds of the program, and allow for a below market interest rate

<sup>1</sup> Loan-loss provision calculated according to ECLOF Kenya ratio: PAR 0-1, 1%; PAR 1-30, 5%; PAR 31-60, 10%; PAR 61-90, 20%; PAR 91-180, 50%; PAR over 180, 100%

Source: ECLOF Kenya financial data

# FSP Sustainability | Should ECLOF Kenya had to account for donor supported costs, the CSA dairy loan would've had a net margin **-78%**

**CSA Dairy Product Net Income without donor support, April 2015- May 2018 (sum of 853 loans to date)**  
MM KES

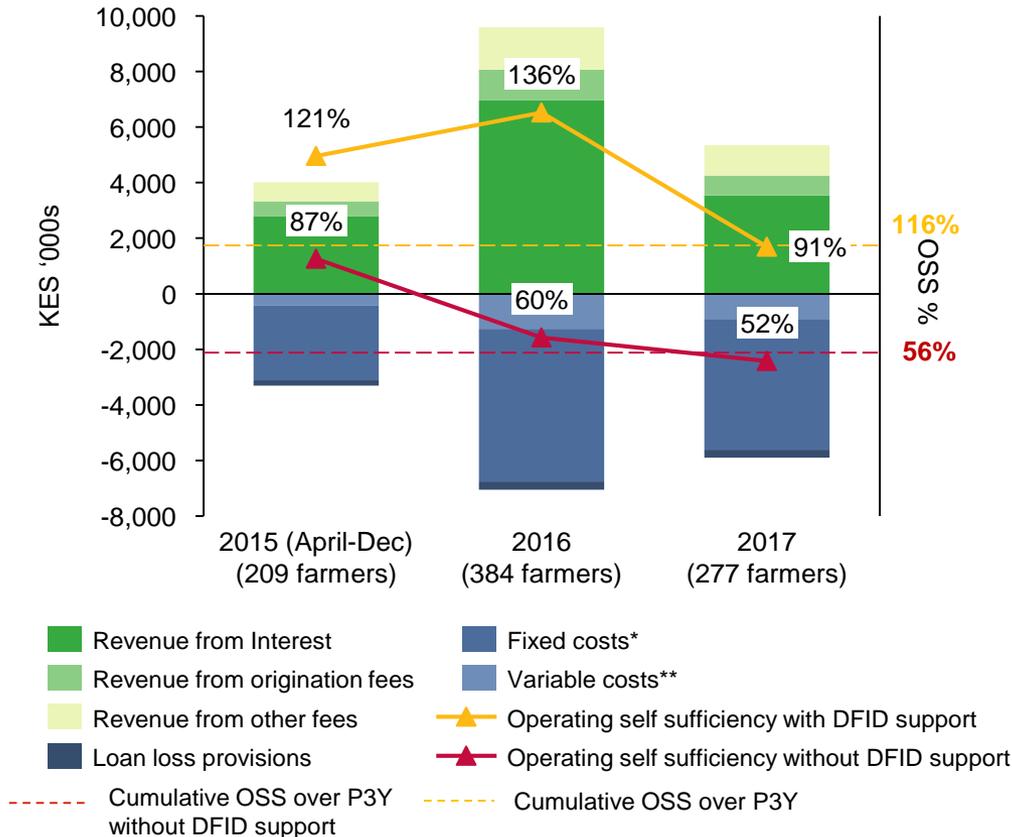


<sup>1</sup> Loan-loss provision calculated according to ECLOF Kenya ratio: PAR 0-1, 1%; PAR 1-30, 5%; PAR 31-60, 10%; PAR 61-90, 20%; PAR 91-180, 50%; PAR over 180, 100%

Source: ECLOF Kenya financial data

# FSP Sustainability | The CSA dairy loan has shown signs of sustainability, but is vulnerable without scale and donor support

## CSA Dairy Revenue, Costs, and Operating Self-Sufficiency (OSS)<sup>1</sup> (KES '000s, %)



\* Fixed costs: Salaries, rent, marketing, staff training, head office costs (adj for number of farmers)

\*\* Variable costs: Farmer training costs, loan insurance expenses

1. OSS = revenue from interest and fees / operating costs

2. In 2017, ECLOF Kenya ended CSA Dairy operations in its Bomet branch due to governance challenges with the value chain partner. This resulted in the removal of services to 132 farmers, and a subsequent decline in revenues and profitability in 2017.

Source: ECLOF Kenya financial data

### Revenue drivers

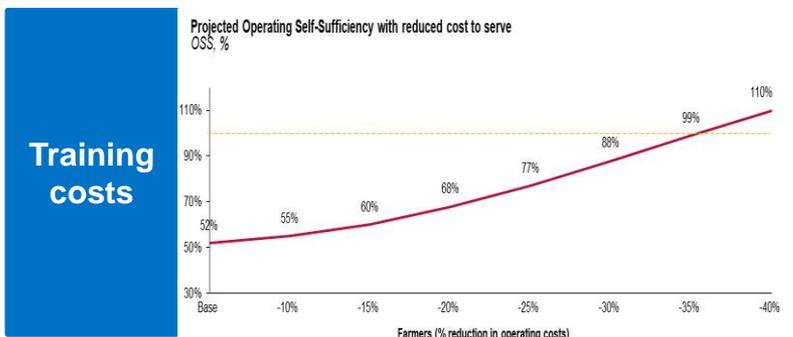
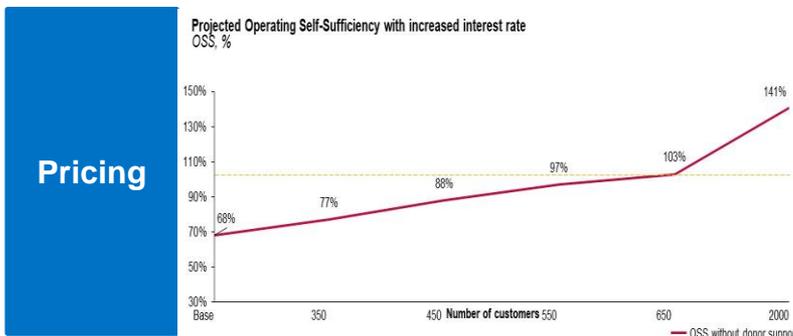
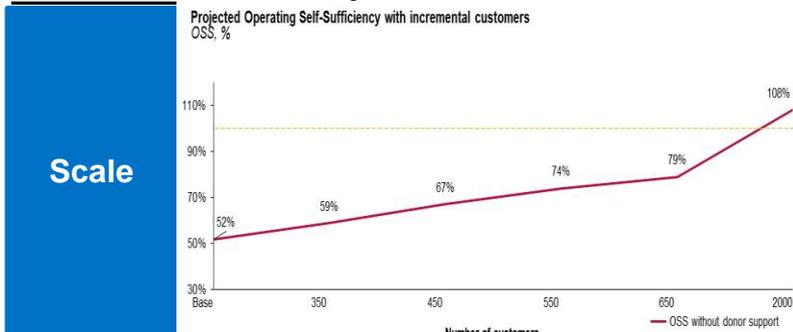
- Total revenue has been highly variable (+139% 2015-16; -44% 2016-17) primarily driven by fluctuations in the number of borrowers<sup>2</sup>.
- On a per customer basis the loan is showing profitability potential with average revenue per farmer growing at annual +15% driven by increasing loan sizes (annual +33% 2015-17), diversified income streams from interest and fees, and despite declining average number of loans per farmer (annual -14% 2015-17).

### Cost drivers & risk management

- CSA dairy loan highly fixed cost structure – primarily due to recent investments in staff and staff related costs for loan servicing and farmer training – has pushed the average cost to serve up by annual ~16% (annual ~30% without donor support) making ECLOF Kenya dependent on scale and / or donor funding to achieve customer profitability.
- Note no cost of funds are incurred by ECLOF Kenya today for the CSA dairy loan due to the DFID grant's concessional financing.
- CSA dairy loan PAR has fallen by ~70% to 1.7% (2015-17) driven by guaranteed off-take and check-off repayment structure, insurance and the non-seasonal nature of the dairy value chain.

# FSP Sustainability | As ECLOF Kenya expands its CSA Dairy loan portfolio, there are 3 key levers it could explore to reach self-sufficiency

## Lever for sustainability



## Outcomes

Everything else held constant, ECLOF Kenya could reach self-sufficiency by growing its customer base five-fold to ~1,400 farmers

By increasing interest rates to market rates ECLOF Kenya could absorb the cost of capital and reach self-sufficiency faster (at ~600 farmers)

Alternatively, 35% cost savings through more targeted and cost effective training could enable self-sufficiency at current scale

## Potential interventions

- Increase penetration of the CSA dairy loan within existing value chain partner farmers
- Establish new partnerships with other value chain players
- *Key challenge: set up of new partnerships is complex and time consuming, particularly in a highly politicized value chain*

- Adjust interest rate to market rates for new borrowers; while proving the value to the farmer through targeted marketing
- Mobilize partner deposits to reduce cost of funds
- *Key challenge: price sensitivity to interest rate increases; competition from banks and SACCOs; bank-license set up*

- Obtain additional donor funding for demo farm set up in strategic regions
- Share GAP training costs with value chain partners, including demo farm maintenance costs
- *Key challenge: fundraising is time consuming; resistance from value chain partner to absorb new costs*

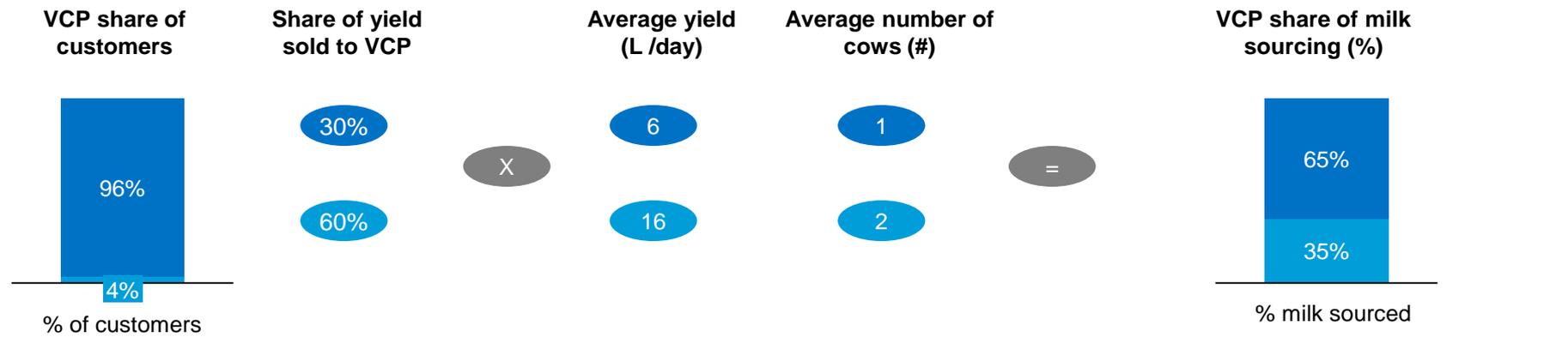
Source: ECLOF Kenya financial data

# VCP Sustainability | Early evidence suggests the partnership with ECLOF Kenya is an important driver of the VCP revenue generation

**1** ECLOF Kenya MOU with farmers guarantees that farmers sell their milk to the VCP, enabling a **steady base of farmers providing milk to the partner aggregator.**

**2** Further, farmers that are part of the CSA program realize higher yields and have more cows, and hence they are likely to **supply more milk** than those who are not.

**3** Together, this implies that the VCP could be sourcing up to ~35% of its milk from ECLOF Kenya farmers, having a **significant positive effect on its profitability.**



**Assumptions:**

- VCP sources from 7,000 farmers, of which 250 are ECLOF Kenya customers
- ECLOF Kenya farmers sell their morning yield to VCP daily
- Other farmers sell their morning yield to VCP only every other day

**Assumptions:**

- Farmers outside the CSA Dairy program are average Kenyan dairy farmers with a single cow and yields of 6L/day.
- CSA dairy farmers are, on average, in the second year of the program (see farm impact analysis)

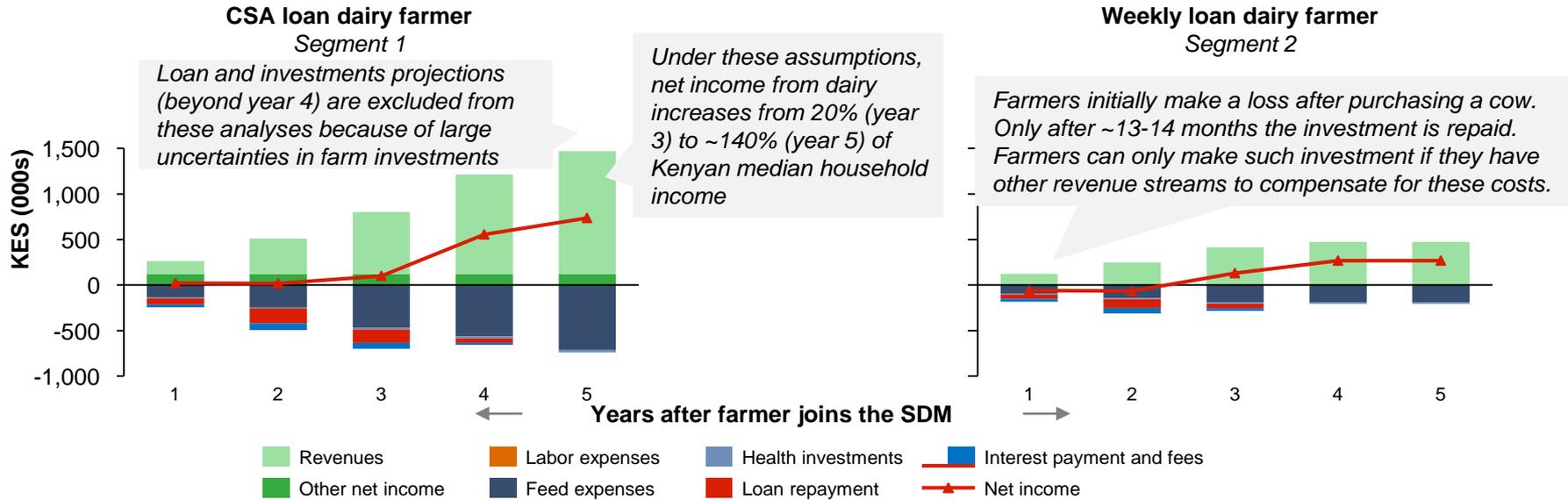
**Assumptions:**

- Assumes 2 months of no production (“drying”)
- These bottom-up estimates are in line with estimates of total sourcing in 2017

■ Other farmers ■ ECLOF farmers

Source: ECLOF Kenya and Value Chain Partner sourcing data; management and farmer interviews.

# Farmer Sustainability | CSA dairy farmers perform 3x better than the average ECLOF Kenya dairy farmer



## Economic sustainability at farm level

- CSA farmers received (1) training on running their farm as a business, including training on improving yields versus purchasing cows and on farming diversification and, (2) livestock insurance.
- By improving the diet of their cows and their farm infrastructure, yields can increase from ~ 6 L / day / cow (average productivity at start of the program) to up to ~20-25 L depending on the breed and cow.
- Despite higher feed cost and upfront investment, the additional revenues and reduced risk means the business case for a farmer applying these practices is ~3x better than that of regular loan dairy farmers.

## Main cost drivers

- **Labor:** Non-grazing dairy farming is labor intensive. Feeding is the main contributor, taking up to ~4 hours a day for a 3-4 cow farm.
- **Inputs:** Cow feed is the main cost driver.
- **Healthcare:** Annual artificial insemination & vaccines, bi-monthly de-worming
- **Infrastructure:** Additional loans for chaff cutters, sheds, and water tanks.

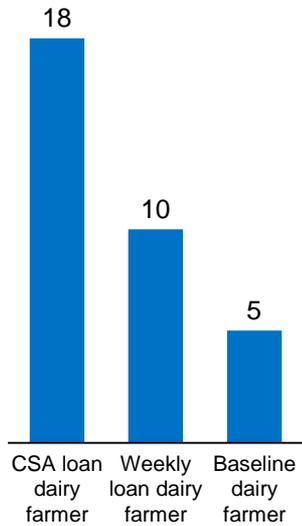
## Main revenue drivers

- **Yield per cow:** Varies by breed and is dependent on care and feeding. During two months in the lactation cycle the cow is unproductive.
- **Number of cows:** Farmers may increase herd size naturally, or sell heifers.
- **Price of milk:** from both cooperatives and hawkers (kept constant in analysis)

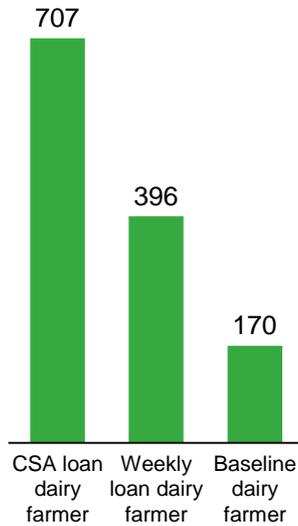
Source: Limited actual data. Analyses are based on literature, agronomist assumptions, expert interviews, farmer interviews. Median income Kenya, Gallup, 2013

# Farmer Sustainability | CSA dairy farmers achieve ~1.5x higher margins per cow driven by higher yields

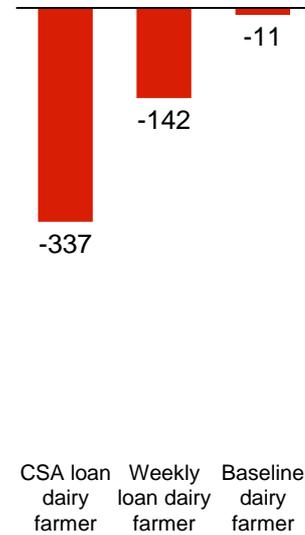
Average daily yield per cow (Litres)



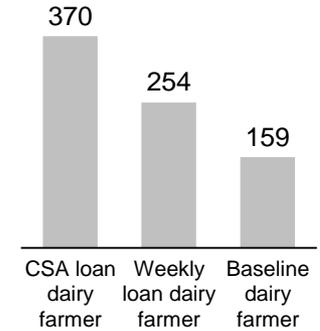
Average daily revenue per cow (KES)



Average daily cost per cow (KES)



Average daily margin per cow (KES)



Cow payback (days)

Farmer Type	Cow payback (days)
CSA loan dairy farmer	270
Weekly loan dairy farmer	394
Baseline dairy farmer	630

## Assumptions:

- Difference in yields per cow driven by different feeding regimes by the farmers.
- Accounts for complete lactation cycle (e.g. the “drying off”)

## Assumptions:

- Assumes 70% sales to VCP at 32 KES / L, and 30% to local traders at 40 KES / L

## Assumptions:

- Difference in costs primarily driven by feeds. E.g. significantly higher use of concentrates (dairy feeds) by CSA dairy farmers (6 kg /day vs 1 kg / day for weekly loan dairy farmers).

## Assumptions:

- Based on assumptions outlined on the left.
- Purchase costs of 100,000 KES / cow

Source: Limited actual data. Analyses are based on literature, agronomist assumptions, expert interviews, farmer interviews. Median income Kenya, Gallup, 2013

# Overall SDM | A push for scale, shared training costs, and digital tools key opportunities to achieve both financial and social sustainability

	 ECLOF Kenya	 Value Chain Partner (Aggregator)	 Farmer
Current sustainability Opportunity to explore			
<b>Dedicated push to increase scale<sup>1</sup></b> Increase penetration within existing partners; establish additional partnerships	Increased outreach, reduced average cost to serve	Stable base of sourcing; increased quality of sourcing	Increased income and resilience for a larger number of farmers
<b>Cost-effective training</b> Demo farm cost-sharing; shared GAP training with value chain partners	Reduce dependence on donor funding; build relationships with farmers	Increased sourcing; increased sales; potentially higher costs	Increased income and resilience through professionalization and GAP to mitigate shocks
<b>Data/digital tools</b> Digital data collection on farmers and value chain partners; ICT enabled advisory services	Lower cost to serve (servicing and farmer training)	Faster processing of payments; better insights into farmers	Improved convenience; potentially, increased outreach and increased yields through more effective advisory services

Current Sustainability

 High
  Low

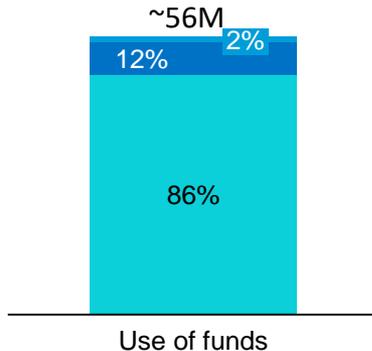
Impact of potential opportunities on stakeholder sustainability

 High increase
  Mid increase
  Low increase

1. As of September 2015 ELCOF Kenya is already piloting two new partnerships with dairy cooperatives in the region.

# Overall SDM | Donor funding played a critical role in CSA dairy loan set up and will continue to do so to achieve scale

## DFID contribution for CSA dairy loan trainings KES



- Demo farm set-up
- Professional services
- Concessional financing\*

## Donor engagement to date

- **Training:** Hired professional service partner to do an evaluation of how to integrate climate smart agricultural (CSA) practices into dairy farming in Embu. This resulted in a comprehensive assessment, direct trainings for farmers, as well as the set-up of two demo farms (one in Embu, one in Bomet).
- **Cost of Funds:** Repayable DFID grant to cover the cost of funds for any CSA Dairy loans. This enabled ECLOF Kenya to lend at a lower interest rate, and minimize financial expenses.
- **Key learnings:** Donor funding distorted the market through subsidized interest rates and was not designed with an exit strategy in mind. Due to recent changes DFID has ended its donor support for both training and cost of funds increasing ECLOF Kenya financial vulnerability. ECLOF Kenya will repay any remaining funds from DFID's grant for cost of capital by the end of 2019.

## Looking ahead: high potential opportunities for donor support



### Loan officer training

Developing capacity building for ECLOF Kenya loan officers and staff, and providing re-usable training programs, will empower ECLOF Kenya to internalize agricultural lessons and lead to long term training of farmers.



### Off-taker capacity

Investing and supporting dairy partners, potentially with help from government services, to ensure they are growing their business and providing a consistent and reliable market for the dairy farmers.



### Demo farm investments

Establishing demo farms in strategic regions to show commitment to local farmers. ECLOF Kenya or partners could take on the maintenance costs.



### Digitization and data analytics

Supporting the one-off costs of digitization and data analytics integration could open the door to more cost effective farmer training and improved product design / pricing.

\* Concessional financing is in the form of a grant – which will be fully repaid by ECLOF Kenya  
Source: ECLOF Kenya financial data

# Conclusions | Key success drivers and risks for ECLOF Kenya CSA Dairy Loan



## Key success drivers

- Strong relationships with guaranteed offtake: Strong and trusted relationships across the entire SDM, in particular between the cooperative and ECLOF Kenya, and ECLOF Kenya and the farmers.
- Aligned incentives across stakeholders: Based on their own metrics, all partners involved have a financial incentive to be part of the program.
- Effective training, including diversification: Effective training through the use of demo farms, and now through loan officers with an agricultural background, has led to diversification of farms and a focus on yield improvement rather than buying more cows.
- Value chain infrastructure: The nature of milk, being an expiring product with no seasonality and immediate returns, creates an important co-dependence between farmer and cooperative and minimizes agronomic risk.



## Key risks

- Reliance on scale: Portfolio requires a minimum scale – given the low margins per customer – in order for the CSA loan to provide positive returns.
- Reliance on one value chain partner: Currently ECLOF Kenya, and farmers, are fully reliant on one value chain partner which limits scale and puts the entire portfolio at risk if the partner defaults.
- Reliance on donor funding without clear exit strategy: The demo farms and low interest rate are fully reliant on ongoing donor funding, which needs on-going reporting and applications for support.
- Use of training funds: Training in the past was focused on paying for support services, rather than on “trainer” training potentially limiting its ROI.

Looking for more information, or interested in participating in a future SDM analysis?

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