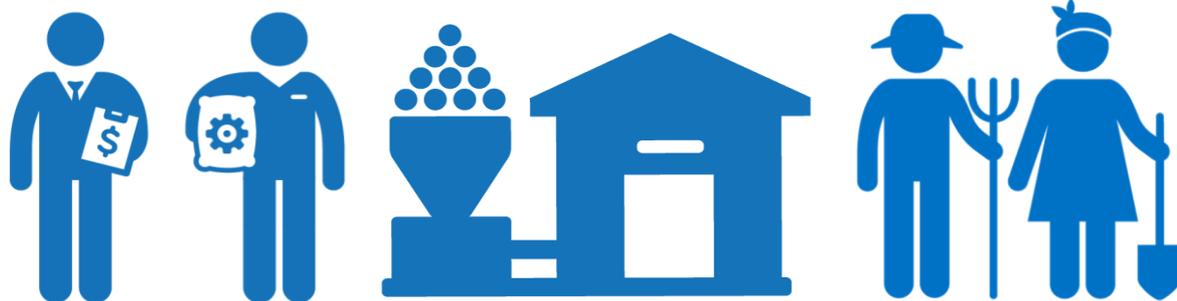


# SDM Case Report: Smart Logistics

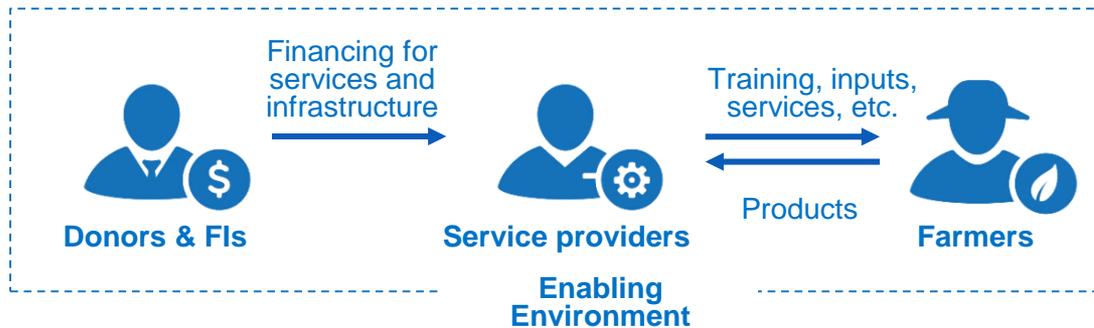
Service Delivery Model assessment: short version  
September, 2019

Location: Kenya  
Commodity: Beans, green gram, sorghum  
Services: Training, planting material provision, agrochemical provision, mechanization, insurance, farmer organization.



# What are SDMs and why are we interested in analyzing them?

**Service Delivery Models (SDMs)** are supply chain structures, which provide services such as training, access to inputs and finance to farmers, to improve their performance, and ultimately their profitability and livelihoods.



By analyzing SDMs, we aim to support **efficient, cost-effective and economically sustainable SDMs at scale** through:

Key drivers for success of SDMs benchmarking



Innovation opportunities to support



Cross-sector learning, learning community



Convening at sector and national level



## Analyzing SDMs brings a range of benefits



### Farmers and farmer organizations

- **Better services** improve productivity, product quality, quality of life and social and environmental outcomes
- **Better outcomes:** improved productivity, income and resilience



### SDM operator

- **Understand** your model's business case
- Gain insights to **improve** service delivery
- Develop **cost-effective** SDMs based on insights
- Identify opportunities for **innovation** and **access to finance**
- **Learn** from other public and private SDM operators operating across sectors/geographies
- **Communicate** stories of impact and success at farmer level



### Investors/FIs

- **Common language** to make better informed investment decisions
- Insights to achieve optimal **impact, efficiency and sustainability** with investments and partnerships in SDMs

# The Louis Dreyfus Company SDM and objectives

## General SDM information:

Location:	Kenya
Timing in analysis scope:	2017-2026
Scale (start of analysis):	2,072 farmers
Scale (end of analysis):	19,825 farmers
Funding:	SDM operator (Smart Logistics)
SDM Archetype*:	National



- Founded in 2009, Smart Logistics Solution (SLS) is an integrated agribusiness company, based in Machakos (Kenya), that deals with sourcing, processing and marketing of raw agricultural commodities.
- SLS's operations start from farm level to the retail shelves, as they partner with over 5,000+ smallholder farmers located in various parts in Kenya, Uganda and Tanzania.
- SLS serves a diverse customer portfolio, ranging from fortified food producers, beverage and animal feed industries to international humanitarian food agencies, schools and hospitals.
- SLS partners with contracted farmers for the production of various food staples using the COPMAS (Community Production & Marketing System) out-grower model. The objective of the model is to unite farmers into economic production groups so as to leverage on quantity and quality of production for better markets.
- SLS's governance structure includes a Board of five directors, a team of senior management and experienced technical staff.

## SDM vision:

Sustainably support smallholder farmer's food value chains

## SDM objectives:

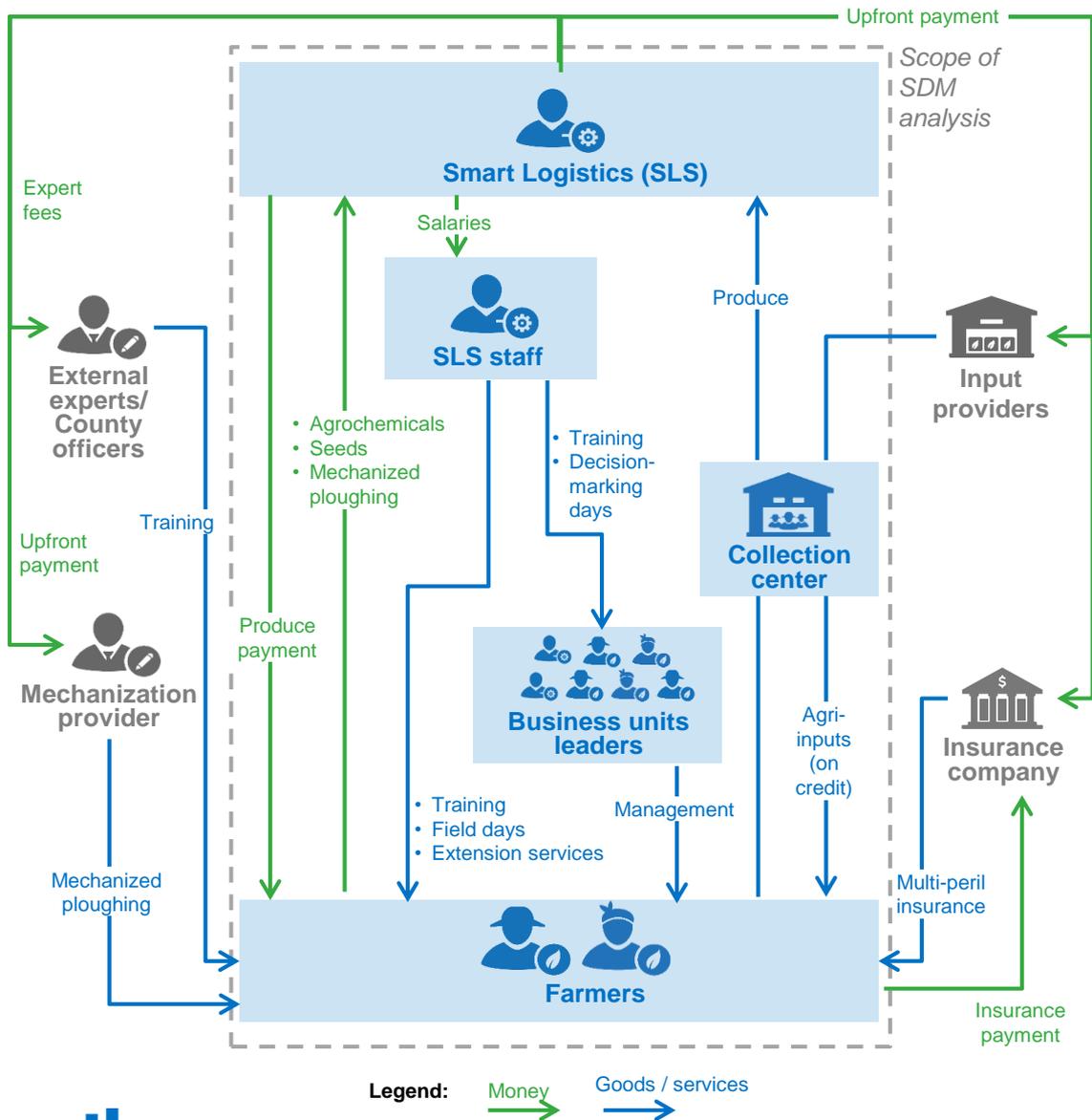
- 1 Increase productivity and quality of products through trainings and access to high quality inputs and services
- 2 Effectively organize farmer groups into economic production units
- 3 Encourage the use of risk management instruments

## SDM rationale:



For more info on SDM archetypes, see the [IDH Smallholder Engagement Report](#)  
Sources: 1) Smart Logistics (2018) Company profile

# SDM and structure and enabling environment



- Since 2010, SLS has been supporting the establishment of farming production clusters by building on existing farmer groups. In 2011, SLS designed the Community Production & Marketing System (COMPAS model), an out-grower model based on contracted farmers organized into informal business units (BU). Each BU consists of 10 smallholder farmer groups (SHFG), each of which comprises 15-20 farmers. SLS sources its products mainly through contracted farmers who are part of the model.
- Besides revenues from commercial sales, SLS generates a profit by providing farmers on credit agri-inputs, which include fertilizers, pesticides and seeds.

## Enabling environment

Farmers are impacted by several factors within their enabling environment. Most important are:

### 1. Infrastructure

The poor road, storage and irrigation infrastructure in the counties under analysis is an inhibiting factor to the development of the sector. Though the situation has significantly changed in the last few years, farmers still incur high costs of transporting their produce to markets, and sometimes never access both input and output markets due to poor road transport.

### 2. Environmental risk

Extreme events and variability of weather are now the norm; rainfall is irregular and unpredictable; while droughts have become more frequent during the long rainy season and severe floods during the short rains. This results in low and declining productivity.

# Services delivered and farmer segmentation (1/2)



## Training

- Farmers receive trainings on good agricultural practices (GAP) through demo plots.
- Besides GAP, SLS trains farmer on financial skills, marketing and post-harvest management.
- SLS provides personal supports to farmers through random visits carried out by SLS field officers.



## Planting material

- Farmers are provided with high-quality seeds. Seeds are provided on credit to farmers. SLS recovers the cost for purchasing the seeds by deducting it from the value of the harvested crop.
- To increase transparency of the value chain, SLS prefers to personally distribute the seeds to the farmers. SLS buys seeds in bulk at a negotiated rate and aggregates them in the collection centers. Farmers collect the seeds from the collection center.



## Agrochemical provision

- Farmers are provided with high-quality fertilizers and pesticides. Agrochemical are provided on credit to farmers. SLS deducts the cost of the agrochemicals from the value of the harvest crop at the end of the season.
- To increase transparency of the value chain, SLS prefers to personally distribute the inputs to the farmers. SLS buys agrochemicals in bulk at a negotiated rate and aggregates them in the collection centers. Farmers collect the agrochemicals from the collection center.



## Insurance

- SLS facilitates access to crop insurance to farmers. The insurance covers risks of crop failure against fire, pest and diseases, birds and other accidents. In case of crop failure due to an external event, SLS supports farmer in filing a claim to a local insurance company (APA)
- SLS negotiates a discounted price for the multiple-peril insurance crop coverage. The insurance covers up to 65% of the value of the lost yield.
- SLS provides the insurance to farmers on credit. SLS deducts the cost of the insurance from the value of the crop sourced at the end of the season.

## Farmers are segmented in this SDM:

There are two types of farmers in the SDM:

### Segment 1

**Bean & sorghum farmers:** Farmers producing beans and sorghum at the same time.

### Segment 2

**Green gram & sorghum farmers:** Farmers producing green grams and sorghum at the same time.

The two farmer segments gain access to the same package of services.

# Services delivered and farmer segmentation (2/2)



## Mechanization

- SLS facilitates the access to mechanization services, specifically for ploughing and threshing activities.
- For ploughing, SLS negotiates a discounted price with affiliated mechanization service providers. Moreover, SLS provides threshing machines to farmers free of charge to reduce post-harvesting losses.
- Farmers pay a fee to access mechanized ploughing. In the case farmers can not afford to pay, SLS provides the mechanization service on credit to farmers, and deducts the amount from the value of the crop at the end of the season.



## Farmer organization

- Farmers are organized into groups of 15-20 smallholder farmers (SHFGs). Ten SHFGs form a business unit (BU). Furthermore, five BUs from the same region form a cluster. Hence, one cluster comprises around 200 farmers.
- Farmers are asked to manage the business units
- SLS works only with contracted farmers. To recruit new farmers, SLS organizes 'sensitization events', where the benefits of being part of the model are explained to farmers.

# Overall SDM impact: Farmer P&L – Segment 1



## Economic sustainability at farm level

The main economic benefit to SDM farmers is the adoption of high-quality inputs (seeds and agrochemicals), use of mechanized labor, and adoption of GAP, which translate in doubled costs of production but also in increased yields. Due to these interventions, yields are assumed to gradually improve and to reach a maximum in year 5. The higher cost in year 3 and 4 is related to increased labor needs for threshing operations. However, from year 5 on, SDM farmers are assumed to use more hired labor for farming activities, which results in higher costs. The average annual net income of a baseline farmer (beans & sorghum) is estimated at 9,289 KES over a ten-year period. In comparison, SDM segment 1 farmers earn, on average, 55,790 KES/year.

Although net income increases by 6 times as compared to the baseline, bean and sorghum farming would not be able to provide enough income for SDM farmer to be above the poverty line for the entire household. With a total farm size of 1.5 acre, SDM segment 1 farmers achieve 75,600 KES/year from year 5 onwards. This accounts for 49% of the income needed to sustain their family\*\*. To bridge this income gap, SDM farmers would need to rely on additional income generated to other on-farm or off-farm activities.

## Main revenue drivers

- **Beans:** Revenues from beans is the main revenue driver of SDM farmers. Total revenues generated from beans constitutes around 55% of total gross revenues for farmers
- **Sorghum:** The second largest revenue driver is selling of sorghum, which consists 45% of total revenues for SDM farmers.
- **Premiums:** SLS pays a quality premium to farmer on top of the market price. Total revenues from premiums account for 16% of total revenues, contributing significantly to their final income.

## Main cost drivers

- **Labor:** Labor expenses are the main drivers for SDM farmers. Around 50% of total labor costs is due to the fee paid for mechanized ploughing. The second largest labor cost is planting, which is a high-labor intensive manual activity.
- **Inputs:** As compared to baseline, SDM farmers use more agro-inputs per acre. Fertilizers are the main cost driver (69% of total input costs), followed by planting materials (18%) and pesticides (13%).

\* Based on a combination of real data, assumptions and projections. Figures will be checked periodically against actual data

\*\* Assuming 4.4 household members (average national Kenyan household size in rural areas) <sup>1)</sup> Source: 1) Kenya Demographic and Health Survey (2014).

# Overall SDM impact: Farmer P&L – Segment 2



## Economic sustainability at farm level

As for SDM segment 1 farmers, the main economic benefit to SDM farmers is adoption of high-quality inputs (seeds and agrochemicals), use of mechanized labor, and adoption of GAP. Due to these interventions, yields are assumed to gradually improve and to reach a maximum in year 5. The higher cost in year 3 and 4 is related to increased labor needs for threshing operations due to higher yields. However, from year 5 on, SDM farmers are assumed to use more hired labor for farming activities, which results in higher costs. The average annual net income of a baseline farmer (green grams & sorghum) is estimated at 13,044 KES over a ten-year period. In comparison, SDM segment 2 farmers earn, on average, 62,281 KES/year, 11% more than segment 1 farmers. The main reason for this increase is the higher farm-gate price for green grams as compared to beans.

Although net income increases by more than 6 times as compared to the baseline, green grams and sorghum farming would not be able to provide enough income for SDM farmer to be above the poverty line for the entire household. SDM segment 2 farmers generate 82,700 KES/year from year 5 onwards. This accounts for only 53% of the income needed to sustain their family\*\*. To bridge this income gap, SDM farmers would need to rely on additional income generated to other on-farm or off-farm activities.

## Main revenue drivers

- **Green grams:** Revenues from green grams is the main revenue driver of SDM farmers. Total revenues generated from green grams constitutes around 58% of total gross revenues for farmers
- **Sorghum:** The second largest revenue driver is selling of sorghum, which consists 42% of total revenues for SDM farmers.
- **Premiums:** SLS pays a quality premium to farmer on top of the market price. Total revenues from premiums account for 15% of total revenues, contributing significantly to their final income.

## Main cost drivers

- **Labor:** Labor expenses are the main drivers for SDM farmers. Green grams farming requires more labor than beans. Besides mechanized ploughing (47% of total labor costs), planting, harvesting and threshing are significant cost drivers for farmers
- **Inputs:** As compared to baseline, SDM farmers use more agro-inputs per acre. Fertilizers are the main cost driver (68% of total input costs), followed by planting materials (19%) and pesticides (13%).

\* Based on a combination of real data, assumptions and projections. Figures will be checked periodically against actual data

\*\* Assuming 4.4 household members (average national Kenyan household size in rural areas) <sup>1)</sup> Source: 1) Kenya Demographic and Health Survey (2014).

# Farm resilience: impact of yields and farm-gate price

## SDM segment 1 farmers annual net income ('000 KES/year) for varying product prices and yields (1.5 acre), year 5 of SDM

### Beans

		Yield (kg/acre/season) →				
		200	500	800	1100	1400
Farm-gate price* (KES/kg) ↓	35	26	45	65	84	103
	40	27	49	70	91	113
	45	29	52	76	99	123
	50	30	55	81	107	133
	55	31	59	87	115	143
	60	32	62	92	123	153

Current projection

### Sorghum

		Yield (kg/acre/season) →				
		450	850	1250	1650	2050
Farm-gate price* (KES/kg) ↓	20	40	53	65	78	91
	26	43	59	76	92	108
	29	44	62	81	99	117
	32	46	66	86	106	126
	36	48	70	93	115	137
	40	50	75	99	124	149

Poverty line\*\*

## SDM segment 2 farmer annual net income ('000 KES/year) for varying product prices and yields (1.5 acre), year 5 of SDM

### Green grams

		Yield (kg/acre/season) →				
		200	500	800	1100	1400
Farm-gate price* (KES/kg) ↓	45	30	53	77	100	124
	50	31	57	83	109	134
	60	34	64	94	125	155
	70	36	71	106	141	176
	80	39	78	118	157	196
	85	40	82	123	165	206

### Sorghum

		Yield (kg/acre/season) →				
		450	850	1250	1650	2050
Farm-gate price* (KES/kg) ↓	20	47	60	73	85	98
	26	50	66	83	99	116
	29	51	70	88	106	124
	32	53	73	93	113	133
	36	55	77	100	122	144
	40	57	82	106	131	156

\* This farm-gate price is a projection assuming that the rest of the value chain will keep the same margins under fluctuating bean, sorghum and green gram market prices.

\*\* Based on the international poverty line of 1.9 USD/capita adjusted using PPP conversion factor for Kenya<sup>5</sup>

and assuming 4.4 household members<sup>6</sup>. This assumes beans, green grams and sorghum are the only income source of the entire household

## Sensitivity of farmer income

The tables show the sensitivity analyses of SDM farmers' net income in year 5 (2021) at varying product prices and yield levels. The red boxes present the estimated net income from this study, also visible on pages 26 and 27. Year 5 was chosen as yields are assumed to remain constant from that year onwards. The analyses take into account changes in price and yields for the crops individually. The selected range is based on optimal yields from improved seed varieties<sup>1,2,3</sup> and price fluctuations from the last 15 years<sup>4</sup>.

Segment 2 farmers show higher resilience than segment 1 farmers, mainly because of the higher farm-gate price of green gram. For both farmers, changes in prices and yields for beans and green gram generates larger impact on their net income, although they are cultivated on the same land size. This highlights the relevance of beans and green grams for SDM farmers, as their most important and risky crop.

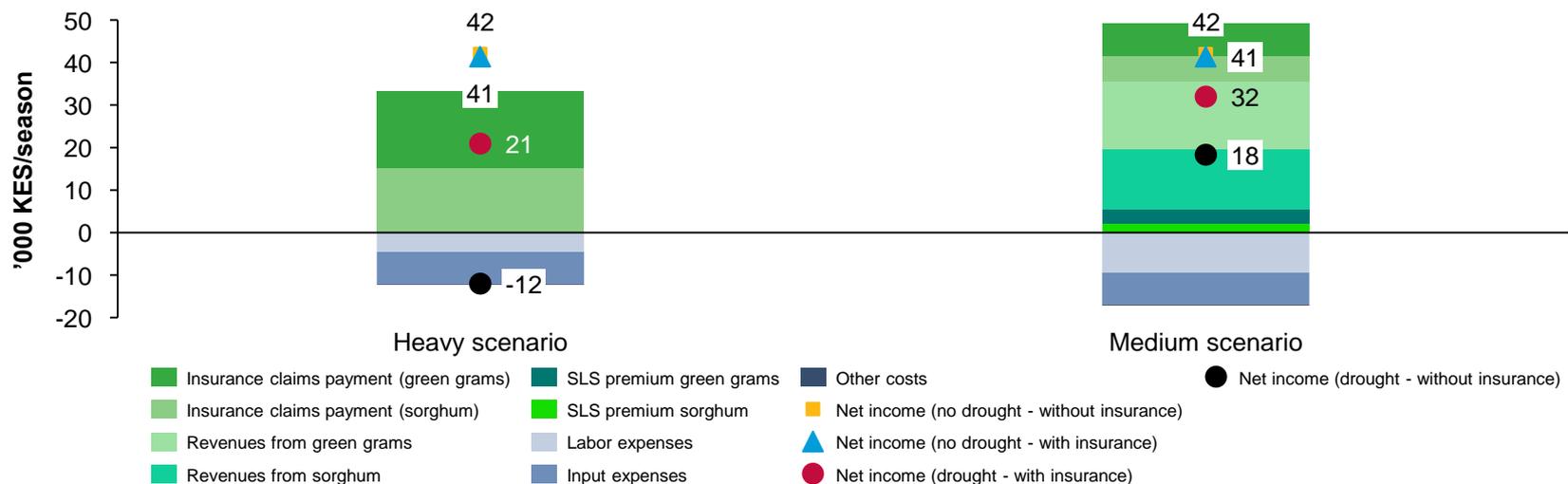
Segment 1 farmers would not be able to earn an income to bring his/her household above the poverty line (153,500 KES/year\*\* per household), either with optimal yields or with higher farm-gate prices. This is not the case for segment 2 farmers, who can achieve a net income above the poverty line with at least a 37% increase in yields and by receiving a 60% higher farm-gate price as compared to the current situation. However, changes in yields and farm-gate prices for sorghum would have a more limited impact. It is important to mention that these yields can only be achieved by a combination of GAP and improved seed varieties.

However, as mentioned above, the analysis only looks at the individual impact of changes in the two crops. If optimal conditions are assumed simultaneously for beans/green grams and sorghum, segment 1 and segment 2 farmers will be able to earn 230,000 and 241,000 KES/year, which is far above the poverty line for an average household in rural Kenya.

Sources: 1) One Acre Fund (2015), Improved Bean seed 2) Masaku *et al.* (2018) Evaluation of Agronomic Performance of Green Gram Accessions Grown under Reduced Light Intensity in the Arid and Semi-Arid Areas of Kenya 3) Chepng'etich *et al.* (2014) Analysis of Technical Efficiency of Sorghum Production in Lower Eastern Kenya: A Data Envelopment Analysis (DEA) approach. 4) FAOSTAT, Annual Producer prices 5) World Bank (2018), Online PPP database, private consumption 6) Kenya Demographic and Health Survey 2014

# Climate risk mitigation: insurance coverage for drought

SDM segment 2 farmers seasonal net income ('000 KES/season) under different drought severity scenarios, year 5 of SDM\*



## Impact of insurance product on farmer's income in case of drought

Counties in the ASAL (Arid and semi-arid regions) of Kenya are extremely vulnerable to droughts, and their frequency and severity is estimated to further increase in the future.<sup>1, 2</sup> For this reason, SLS advises farmers to insure their farm with a multi-peril insurance product. The insurance also covers damages caused by a drought. The insurance company covers up to 65% of the agreed average yield in case of reduced yields due to a drought. The graph above shows the impact that a drought has on a segment 2 farmer's P&L in case the farmer is insured or not. Two drought scenarios are considered:

**Heavy scenario:** In this scenario, the drought covers the whole period of the cultivation, from planting until harvesting (75- 90 days), causing a 100% reduction in yield.

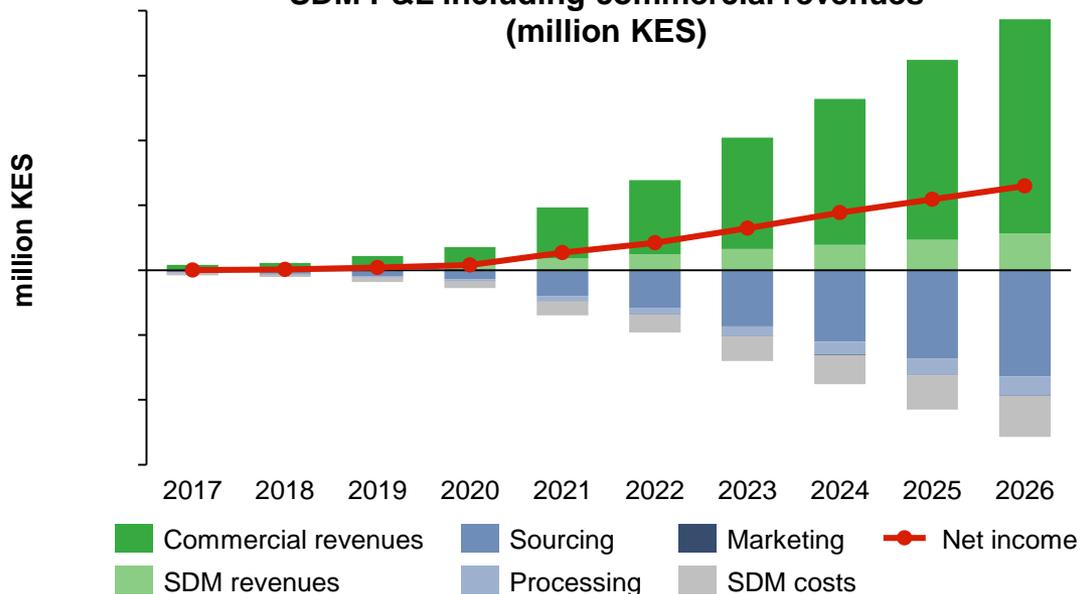
**Medium scenario:** The drought starts around the flowering time and it lasts until harvesting (30-40 days), causing a 45% and 35% reduction in yields for beans/green gram and sorghum respectively.

As can be seen, the SDM farmers with insurance are able to earn a positive income in both scenarios. In the heavy scenario, the net income of the SDM farmer is estimated at 21,000 KES/season, around 50% of the net income in case of no drought. In the medium scenario, the SDM farmer is able to earn 32,000 KES/season, around 77% of the normal net income. This highlights the importance for farmers to ensure their farms to avoid a drastic reduction of their net income, or, in case of heavy droughts, a seasonal loss of 12,000 KES. Although this can be an efficient short-term solution for farmers, SLS should explore more sustainable and long-term solutions to increase farmers' adaptive capacity to climate change. This might include investments in irrigation systems, rainwater harvesting systems or drought resistant seeds.

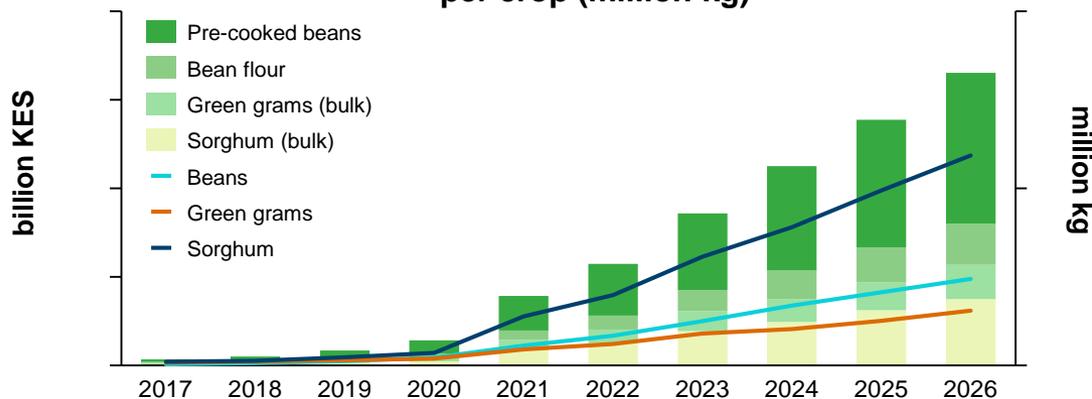
\*Figures are based on a mix of measured data and assumptions; Sources: 1) MoALF. (2017) Climate Risk Profile for Machakos County. Kenya County Climate Risk Profile Series. The Ministry of Agriculture, Livestock and Fisheries (MoALF), Nairobi, Kenya. 2) MoALF (2016) Climate Risk Profile for Makeni. Kenya County Climate Risk Profile Series. The Kenya Ministry of Agriculture, Livestock and Fisheries (MoALF), Nairobi, Kenya.

# SDM P&L including sourcing

**SDM P&L including commercial revenues (million KES)**



**Selling revenues (billion KES) & volume sourced per crop (million kg)**



## SDM financial sustainability including sourcing operations

When considering commercial revenues from sourcing operations, the SDM is financially sustainable in the short and long run (assuming 0% default rate). On average, commercial revenues make up 73% of total revenues generated over the ten-year period. The remaining revenues are generated by provision of agrochemicals (23%) and planting materials (4%).

The bottom graph shows an estimation of SLS product sales revenues in comparison with their sourcing volumes. SLS markets two products from beans, namely pre-cooked beans and bean flour. Over the ten-year period, SLS sale volumes will consist of 90% pre-cooked beans and 10% of bean flour. Together, they make 56% of total revenues of the SDM. The other two products, green grams and sorghum, are sold in bulk.

Although sorghum is the largest commodity in terms of volume, value added products from raw beans yield much higher revenues for SLS as compared to products sold in bulk (green grams and sorghum). This can be an incentive to SLS to extend their portfolio of value-added products also to other legumes and grains. Since the financial sustainability of the model relies mainly on revenues from commercial operations, a major risk for SLS in the current model is related to loyalty rates and yield levels of SDM farmers. It is therefore important to understand how changes in those variables can impact the financial sustainability of the SDM.

# SDM outcomes and main learning questions

(1/2)

*These are not an official assessment of SDM success or failure by IDH or NewForesight, but an indication based only on the analysis done in this forward-looking study, and on assumptions provided by the case owner(s). Actual assessment of success of the SDM should be conducted during and after the SDM is conducted using measured results*

## SDM objectives

## Projected outcomes

<p><b>1</b> Increase productivity and quality of products through trainings and access to high quality inputs and services</p>	<ul style="list-style-type: none"> <li>• Increased long term security of supply of sustainable produce.</li> <li>• Improved farmer livelihoods</li> <li>• Increased farmer income from higher volume and quality</li> <li>• Developed farmer entrepreneurial mind-set</li> </ul>
<p><b>2</b> Effectively organize farmer groups into economic production units</p>	<ul style="list-style-type: none"> <li>• Reduced produce losses from improved post-harvesting practices</li> <li>• Increased bargaining power to negotiate farm-gate price and agri-input prices</li> <li>• Ensured long-term relationships with farmers</li> </ul>
<p><b>3</b> Encourage the use of risk management instruments</p>	<ul style="list-style-type: none"> <li>• Reduced impact on farmer's income of drought events</li> <li>• Increased long-term security of supply through farmer retention</li> </ul>

Learning question	SDM insights
<p><b>What is the impact of the SDM on farmers' income?</b></p>	<p>The major economic benefit for the farmers is the additional income from improved agricultural practices, facilitated access to market and the increased stability of income due to the contract that they stipulate with SLS. Due to adoption of GAP, use of mechanized labor, and appropriate use of high-quality agro-inputs (seeds and agrochemicals), SDM farmers are able to increase their income from 9,289 and 13,044 to 75,602 and 82,706 KES/farmer for segment 1 and segment 2 respectively. The highest impact is due to the continuous training provided by SLS to farmers. Providing trainings every year contributes to build trust and motivation amongst farmers and helps in ensuring that farmers are adopting GAP. Moreover, the use of threshing machines provided by SLS has a large impact on increasing income by minimizing post-harvesting losses. The use of high-quality inputs is very impactful. However, SLS needs to monitor proper adoption throughout the years. Although they have similar yields in the first two years of the analysis, SDM farmers are already earning higher income than baseline farmers due to the premium that they receive from SLS. For both SDM farmer 1 and 2, revenues from SLS premiums account for 16% of the total revenues.</p>
<p><b>Can our commercial activities recover the costs of the SDM?</b></p>	<p>When considering revenues from commercial activities, the SDM is financially sustainable both in the short and long run. Commercial revenues represent 73% of total SDM revenues, followed by margins on agrochemical (23%) and planting material provision (4%). SLS sells its products in bulk (sorghum and green gram) or as value-added products (pre-cooked beans and bean flour). Although sorghum is the largest sourced product in terms of volume, the major revenue stream consists of selling of value-added products from beans, namely pre-cooked beans and bean flour. In fact, bean sales represent 56% of the total SDM revenue streams. The estimated trends support the strategy that SL expand their portfolio of value-added products, by extending their processing operations also to other legumes and grains that they source (e.g. green grams or sorghum).</p>

# SDM outcomes and main learning questions

## (2/2)

*These are not an official assessment of SDM success or failure by IDH or NewForesight, but an indication based only on the analysis done in this forward-looking study, and on assumptions provided by the case owner(s). Actual assessment of success of the SDM should be conducted during and after the SDM is conducted using measured results*

### Learning question

### SDM insights

**What can be done to improve the financial sustainability of the model? What drives lower service delivery costs?**

The SDM is financially sustainable when commercial revenues are taken into account. However, there are some strategies that can be undertaken by SLS to further reduce cost or increase revenues:

*a. Reducing training costs*

Although training cost efficiency drops down from an average of 4,397 in 2017 to 3,524 KES/farmer in 2026 due to scale and reduced costs from hiring external consultants, there is still room for lowering the costs further. The major cost drivers are refreshments and commuting fares provided to farmers, which together count for 74% of total cumulative training costs. Although providing refreshments and commuting fares increases farmer participation to training and loyalty, SLS can significantly reduce these costs without compromising the incentive mechanism for farmers to participate. For instance, by only providing refreshments and commuting fares during the three years of training, SLS can reduce training costs by 38% over the ten-year period. Another potential solution to further reduce costs can be to train business unit leaders during the first three years to be able to start providing training to new farmers. This could be an opportunity for BU leaders to diversify their income and for SLS to reduce costs for hiring external consultants or county officers.

*b. Support farmers to increase farming land size*

The SDM model is very sensitive to changes in farm land size. Of all the variables assessed (loyalty rates, average yields and average land size), the latter is the one that affects the SDM net income the most. Similarly for farmers, an increase in land size is the best strategy to increase their income, as it impacts more on their business model as compared to farm-gate prices and yield. For instance, by increasing land size from 0.75 to 3 acre, the annual average SDM net income over the ten-year period would increase by four times (see page 70). Currently, most of the farmers are under-cultivating their land due to lack entrepreneurial mindset and limited cash liquidity. However, it is crucial, and of mutual interest, that SLS supports farmers to invest in expanding their farming land.

*c. Involve financial institutions to mitigate the risk of default*

Currently, SLS bears all the risk in case of farmer's payment defaults. As the SDM scales up, the potential losses due to a high default rate can significantly affect the SDM net income (see answer to Learning question 2). A potential strategy for SLS to mitigate the risk of payment default would be to partner up with financial institutions that can take up the risk of default.

# Key insights



## Key drivers of success

- The establishment of the COPMAS model will ensure that farmers get a higher and transparent price, which is vital to **securing loyalty** within the SDM.
- The provision of a **holistic service package** to farmers that includes delivery of on-credit high-quality inputs at **negotiated rate** is the key to establishing trust and loyalty with farmers as well as to reduce their cost of production.
- **Value-added products** from beans are the main source of revenues for the SDM, although the sourced volume of beans is lower. SLS must consider expanding its product portfolio of value-added products by extending its processing operations to other legumes and grain.



## Key factors in replication

- The establishment of **contracts** with farmers and the payment of a **premium** increase loyalty and contribute to the establishment of more structured markets (without middlemen).
- SLS leverages its strong position in the Kenyan agricultural market to **negotiate lower prices for agri-inputs** provided to its farmers.
- **Building and maintaining infrastructure** to streamline sourcing and provide farmers with post-harvesting machinery to increase quality of the product makes this an efficient model.
- **Value-added products** represent a great opportunity to increase profit margins as compared to bulk products. This approach can be considered when SLS plans to expand their operations to other crops.



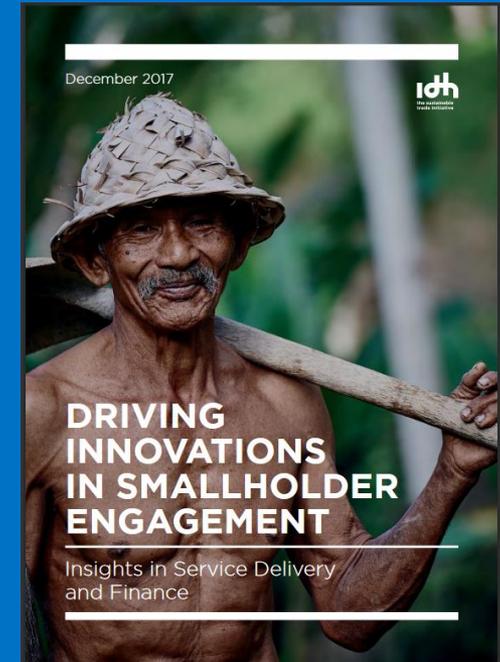
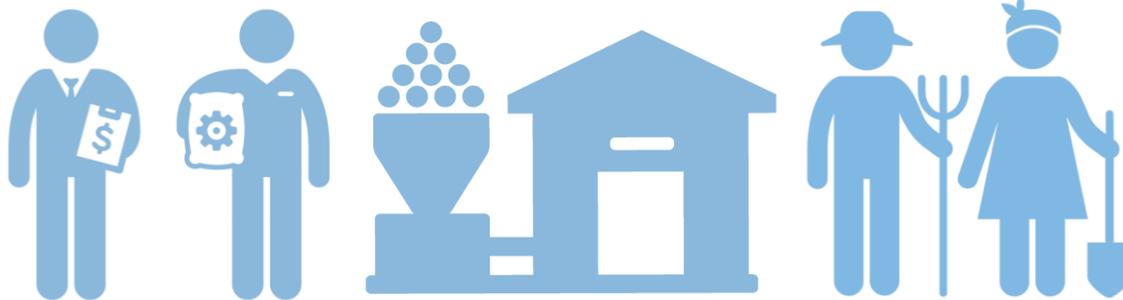
## Key risks

- **Under the current assumptions, farmers will still earn an income below the poverty line.** This could cause farmers to quit the SDM, causing loss of income for SLS.
- **The SDM largely depends on commercial revenues to cover its costs, which require an increase in farmer yields.** Stagnating yields and low farmer loyalty would decrease commercial revenues significantly, rendering the SDM less profitable.
- **Due to the lack of a M&E system,** there is limited understanding of the impact of the SDM on farmers' agronomic performance.
- **Increasing frequency and severity of droughts in Eastern Kenya is a major risk for both farmers and SLS.** To ensure long-term stability of supply, SLS needs to consider supporting farmers to invest in climate-smart solutions to increase their climate resilience.
- **SLS is bearing all the costs in case farmers fail to repay the on-credit agro-inputs provided for the season.** Payment defaults by farmers is a major risk for SLS due to the high impact that it has on the SDM net income.



## Opportunities for improvement

- **Design and implement an M&E system** to monitor both agronomic performance of contracted farmers as well as commercial operations.
- **Further diversify portfolio of value-added products.** SLS should consider expanding its processing operations to other crops to become a multi-sectoral leader in the healthy and nutritious food market.
- **Decentralize processing operations** across operating counties in order to reduce sourcing costs as the SDM scales up.
- **Support farmers to invest in climate-smart interventions.** As droughts will become more severe, interventions such as rainwater harvesting in combination with drip irrigation systems can be further explored.
- **Reduce training costs** via:
  - Ending the provision of refreshments and commuting fares to farmers after 3 years.
  - Reduce the need for external consultants by focusing on training internal staff (SLS field officers) and BU leaders



For more information and insights on SDM's, see the [IDH Smallholder Engagement Report](#)