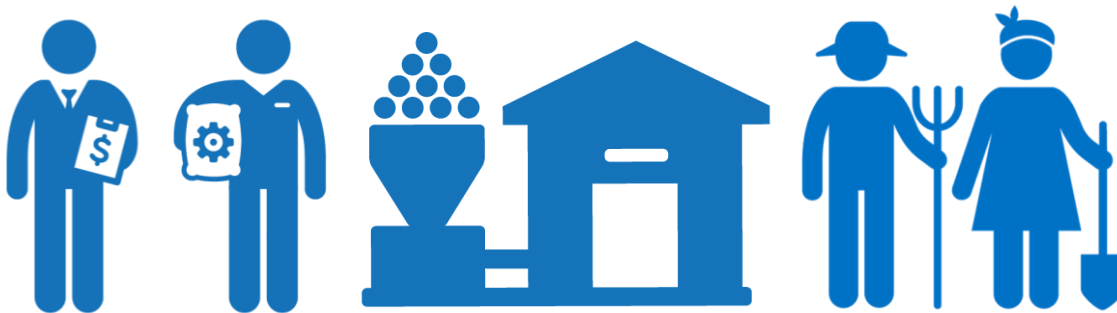


# SDM: Case Report One Acre Fund

Service Delivery Model assessment: Short version  
April 2018

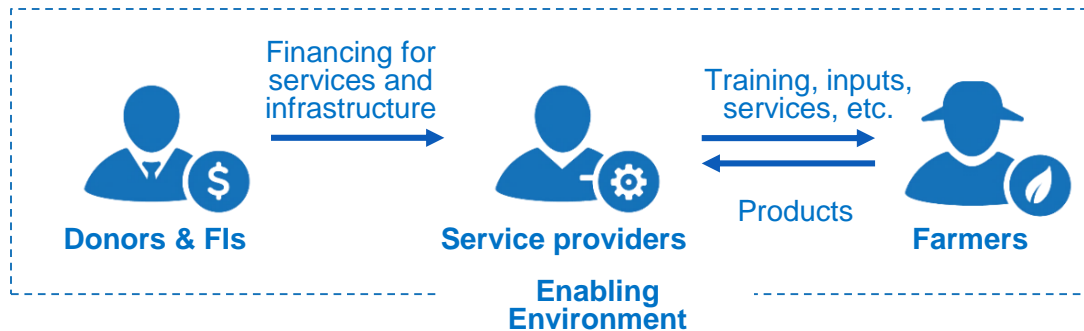
Location: Kenya  
Commodity: Maize, beans  
Services: Training, input provision, financing, crop insurance, funeral insurance



# 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. The aim is to improve farmers' performance, and ultimately their profitability and livelihoods.

A SDM consists of service providers, often supported by donors and financial institutions (FIs), and farmers receiving the services. All are set within a specific enabling environment.



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

- **Enhanced services**, which lead to improved farmer income and resilience, through higher productivity and product quality
- **Improved SDM outcomes**, which lead to an improved social and environmental environment



### SDM operator

- Better understanding of your **business case**
- Insights to **improve service delivery**
- Insights to develop a **cost-effective SDM**
- Identification of opportunities for **innovation** and **access to finance**
- **Comparison** with other public and private SDM operators operating across sectors/geographies
- Ability to 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 One Acre Fund SDM and objectives

## General SDM information:

Location:	Kenya
Timing and analysis scope:	2015-2017
Scale (start of analysis):	136,095 farmers
Scale (end of analysis):	233,794 farmers
Funding:	One Acre Fund (itself funded by donors)
SDM Archetype*:	Service focused



One Acre Fund is a not-for-profit organization that supplies smallholder farmers in East Africa with input loans and agriculture training services to reduce hunger and poverty.

The range of products that One Acre Fund offers to their clients includes - but is not limited to - maize, trees, beans, collards, sorghum/millet, vegetables, solar lights, cook stoves and sanitary pads.

As of 2016, they serve 445,000 farmers across 6 countries in Africa.

**This report focuses on the Kenyan program.**

## SDM objectives:

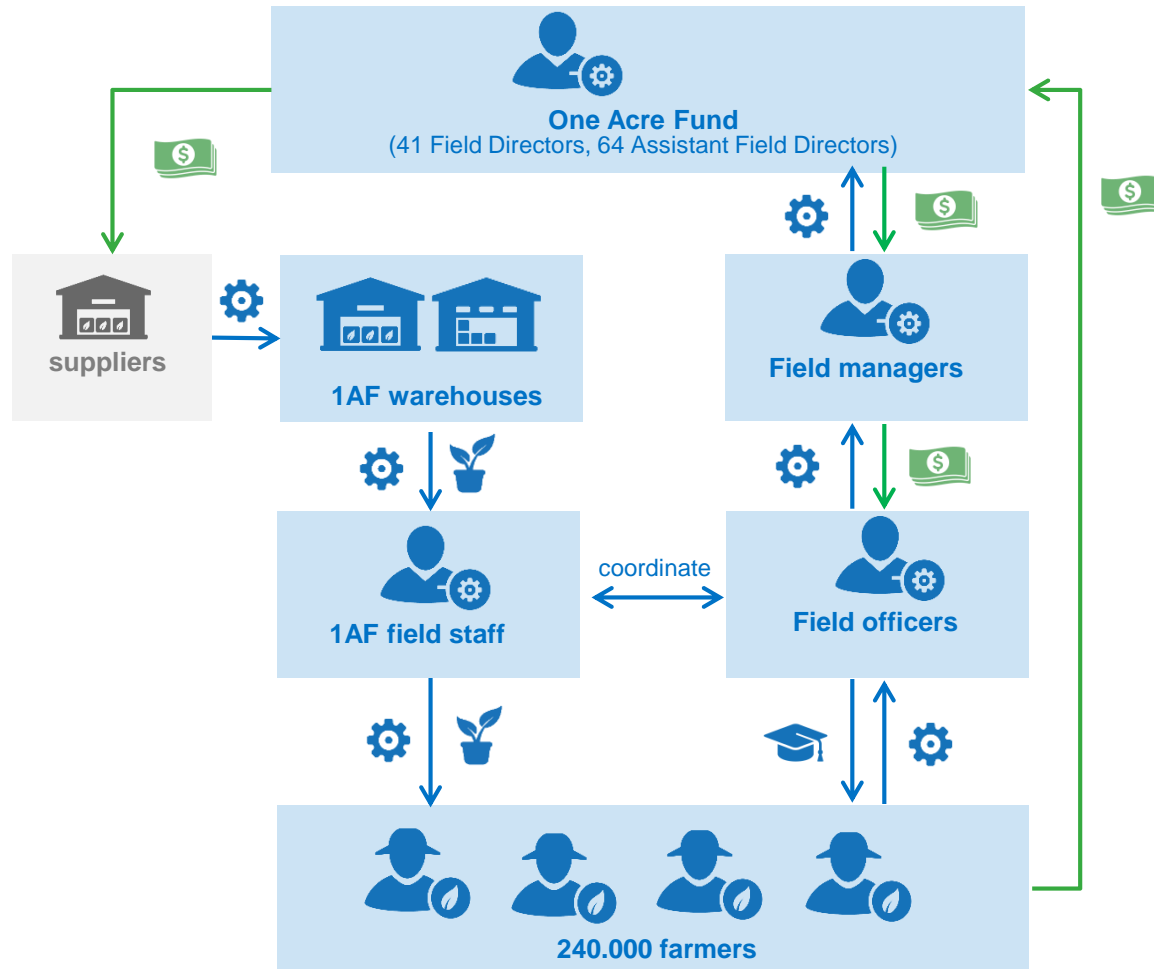
- 1 Improve harvest and income
- 2 Support thriving families
- 3 Improve soil health

## SDM rationale:



\* For more info on SDM archetypes, see the [IDH Smallholder Engagement Report](#)

# SDM and structure and enabling environment



## Enabling environment

Farmers and 1AF are impacted by several factors within their enabling environment. Most important are:

### 1. Environmental issues

Maize is sensitive to plagues and illnesses, and the negative impact is worsened by drought and climate change.

### 2. Social willingness

The model is dependent on farmers being willing to join groups and work together, and field officers and group leaders being able to mobilize farmers.

### 3. Inputs & Financing

Large amount of working capital is often needed. Seed quality and availability is often a challenge, as well as local seed policies.

Legend → Flow of goods and services → Cash flow

# Services delivered and farmer segmentation

## Agricultural products distribution

- 1AF delivers high-quality maize seeds, fertilizer, and other products to farmers with the guarantee of on-time delivery to a drop point within walking distance of every farmer's home.
- Inputs for maize are sold in standardized packages for a variety of plot sizes (0.25-2 acres).

## Crop insurance

- 1AF insures its farmers by purchasing an area yield-based insurance product that enables it to indemnify farmers in the event that yields are reduced by exogenous factors (e.g. drought, hail, disease, poor germination)

## Funeral insurance

- 1AF also provides funeral insurance as a standard part of the bundle of services. In addition, 1AF's policy is to cancel the family's debt to 1AF in the event of the contract holder's death.

## Farmer training

- Full-time 1AF Field Officers deliver weekly, in-field agronomic training for farmers during the season. They also incorporate financial training and administrative training to ensure farmers fully understand their relationship with 1AF.
- Farmer training is included in the service bundle, to ensure the optimal adoption of inputs.

## Financing

- 1AF provides the inputs on credit; farmers repay throughout the season until shortly after harvest time.
- Within the repayment period, the repayment schedule (timing, payment size) is completely flexible, though 1AF has established a "healthy path" that it uses to ensure farmers don't fall behind.
- All of the farmer repayment is done through mobile banking.

## Farmers minimal criteria and service packing / sequencing:

### Minimal criteria:

Before farmers can join the program, they: need to be part of a farmer group (from 4-16 farmers), and qualify with a prepayment of 500 KSH

### Service bundling:

1AF provides services in bundles to ensure farmers get consistent and good quality products. To be part of the program, farmers are required to contract the basic service bundle. Additionally, farmers can choose from a range of optional packages for both agricultural and non-agricultural products.

### Service sequencing:

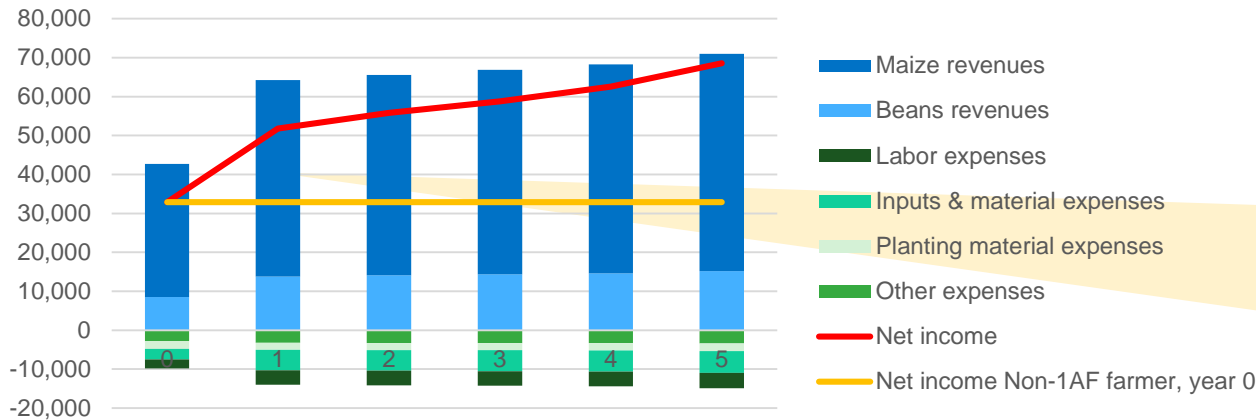
1AF sequences their services to ensure all of the necessary components for a bigger harvest are provided together:

1. Farmers get approved for finance
2. Farmers receive training, crop cycle inputs, and have access to agricultural and non-agricultural products
3. Farmers are supported throughout the season, and must pay back loans



# Farm P&Ls: overall impact

Model 1AF farmer over 5 years (KSH/year)



As a comparison, 1AF's average *actual* impact across all its customers in 2015 was \$211 (21,311 KSH) per farmer compared to non-1AF farmers. This is similar to the difference between the net income of the model farmer and the non-1AF farmer in year 1 of our model.

## Economic sustainability at farm level

- 1AF farmers depend on their production primarily for consumption before selling surplus for its market value.
- The current average productivity for a non-1AF farmer is around 1,100 kg/acre. Farmers that are part of the program utilizing the current interventions have the potential to achieve approximately 1,600 kg/acre.
- 1AF measures impact as net profit relative to non-1AF farmers, taking into account profit gains of both agricultural and non-agricultural products. The majority of the profit gains in the early years come from increases in staple crop productivity, with gains in later years coming from diversification (e.g. poultry).
- The case presented for the 1AF farmer reflects the gains achieved by a hypothetical farmer gradually taking advantage of the full range of offered products. Typically, 1AF cites its average impact across its entire client base, which includes new and returning farmers. *See the yellow callout above for comparison to actual impact.*

## Main revenue drivers

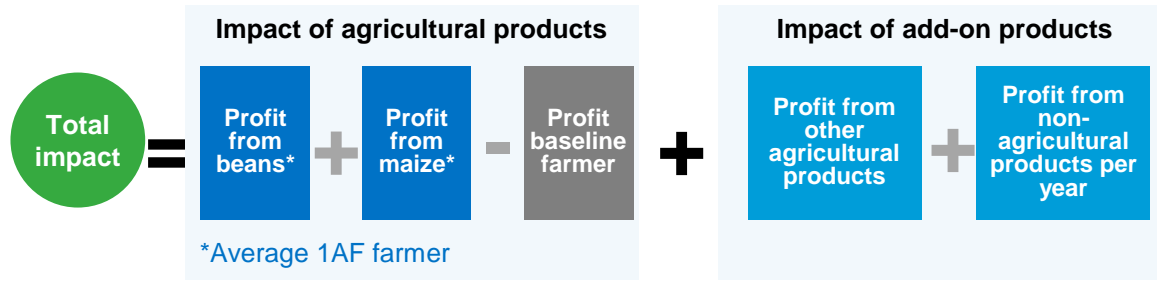
- **Production sales:** revenue for sold crops
- **Own consumption:** market value of the part of the production that farmer uses as food
- **Value created by add-on products:** other agricultural products (bags, compost) and non-agricultural products (solar lamps)

## Main cost drivers

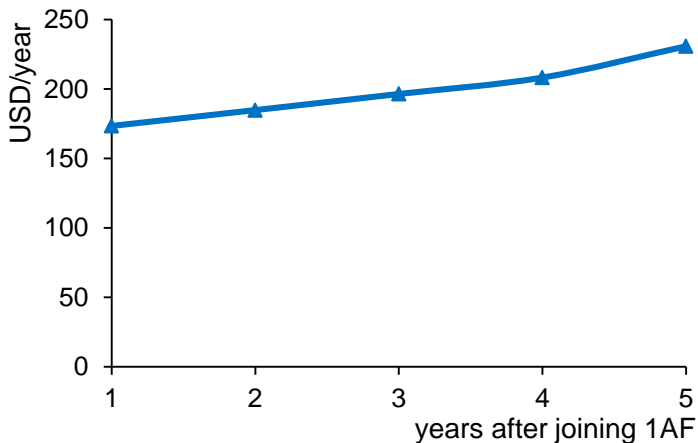
- **Inputs:** cost of seeds, fertilizer, etc.
- **Capacity building:** training
- **Post-harvest:** cost of drying sheets and other products that help store the part of the production to be sold at high price
- **Finance:** cost of finance that is part of the loan
- **Other:** non-agri products, insurance, etc.

# Impact per farmer

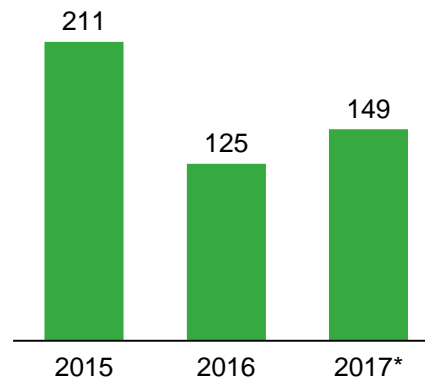
## Calculation of impact per farmer



**Impact for a model 1AF farmer over time**



**Total program impact per farmer USD, (2015-2017)**



Note: The model 1AF reflects all the assumptions of ideal 5 year trajectory of a farmer, adopting the recommended agricultural products at a sustainable pace and purchasing some non-agricultural products to improve their livelihoods over the years. Data for 2017 is based on projections

1AF takes harvest measurements in farmers' fields and conducts extensive data collection to measure impact. To understand its impact at the program level, 1AF averages the data of thousands of customers (new and returning) and non-customers to calculate impact per farmer.

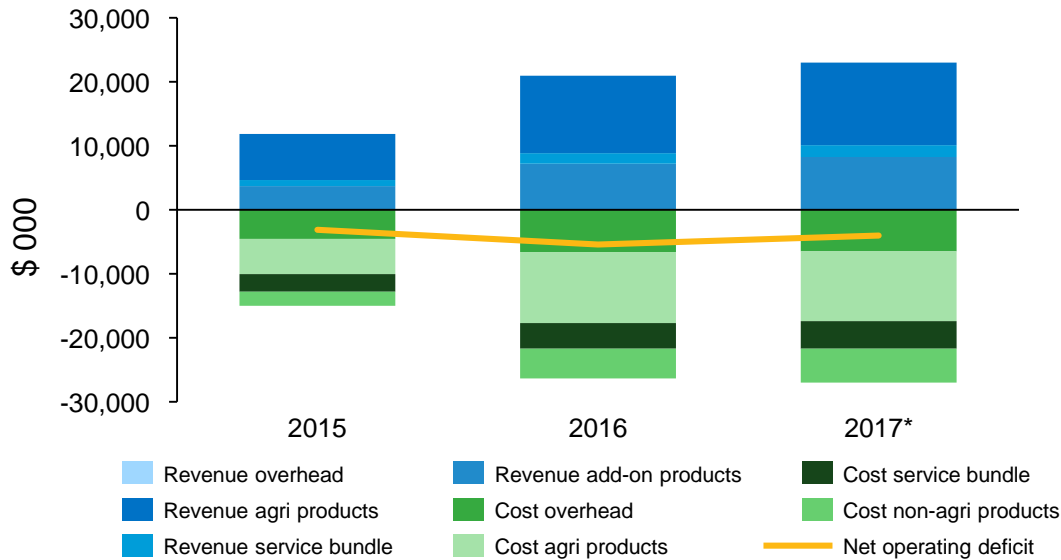
It calculates the total impact per farmer by adding:

- Impact of main agricultural products (maize and beans) per farmer, which is the difference between the profit of an average 1AF farmer and a baseline farmer.
- Total economic impact of other agricultural and add-on products.

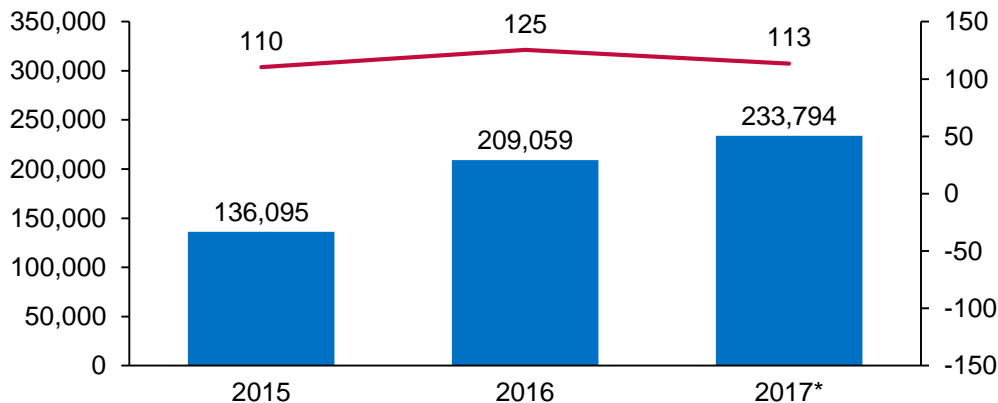
The impact of consumer products such as solar lights is calculated against savings gained by replacing previous expenses (e.g. kerosene.) There are also many non-financial benefits of 1AF's add-on products (e.g. more study hours for children) that are not captured in 1AF's impact calculations.

# SDM P&L, scale and sustainability

Overall SDM P&L by service ('000 \$)



SDM scale (# farmers) and total cost per farmer before revenues (\$)



\*Data for 2017 is based on projections.

## Economic sustainability of the program

1AF's model focuses on farmer impact. The commercial margin on their services does not cover the total costs. 1AF compensates the deficit with grant money. The net deficit per farmer from 2015-2017 has been 22 USD/farmer according to 1AF (already including the revenues for products), which represents around 20% of total cost per farmer.

## Revenue drivers

- All services and goods provided to farmers have a small margin that covers part of the logistic and administrative costs, but not always all costs. Product prices reflect market rates, but 1AF determines the overall price to farmers based on the resulting impact and what a farmer can pay. When 1AF enters a new geographical area or introduces a new product, they consult extensively with local farmers and trial everything at increasing scale in farmer's fields before integrating it into their standard offering.
- Most of the revenue comes from the agricultural products (maize seeds and fertilizer) and add-on products.

## Cost drivers

- Most of the cost in the model come from overhead costs and the agricultural products.
- Overhead costs cover logistical and administrative activities at field level, and are therefore key for service delivery.



# SDM projected outcomes

*These results do not represent an official assessment of SDM success or failure by IDH or NewForesight. An indication is given based on the analysis done in this forward-looking study and assumptions provided by the SDM operator(s). Actual assessment should be done during and after the SDM, using measured data*

SDM objectives	Projected outcomes
<b>1</b> Achieve bigger harvests	<ul style="list-style-type: none"><li>• 1AF farmers report having an increase in their productivity as the result of the use of inputs and the implementation of best practices.</li><li>• 1AF seeks to achieve a harvest of 5 ton/ha in the longer term.</li></ul>
<b>2</b> Support thriving families	<ul style="list-style-type: none"><li>• According to 1AF impact studies, 1AF farmers report having a shortened or eliminated hunger season.</li><li>• Additionally, returning farmers are more willing to invest in quality of life improvements, such as education, health, etc.</li></ul>
<b>3</b> Improve soil health	<ul style="list-style-type: none"><li>• 1AF has actively assessed soil health in Kenya, analyzing pH, carbon and micronutrients, This information has reported improvement in soil health.</li><li>• The reported improvements are from a short window of time, therefore not sufficient to conclude that the program has a positive effect on soil in the longer term.</li></ul>

# Key insights



## Key drivers of success

- By consistently focusing on three key indicators (impact, sustainability and scale), 1AF has been able to grow rapidly while keeping costs low.
- The core offering is standardized to enable ease of operation at scale.
- By serving a critical farmer need (food production), 1AF establishes a long-term relationship with the farmer that allows it to support diversification and introduce other impactful products and services over time.
- Group organization and high-touch field officers sourced from the local community are critical to proper input adoption and repayment.



## Key factors in replication

- Treating beneficiaries as clients distinguishes this model, and has determined the way it functions: a wide assortment of products and an active role for farmers to choose the service packages they “purchase”.
- 1AF bundles training, finance, and delivery with quality inputs to ensure farmers have everything they need to succeed. This integrated solution ensures adoption of best practices, resulting in higher yields, and strong ROI for the farmer.
- Flexible repayment is also key in the approach. Giving farmers the possibility to pay according to their own cashflows with no fixed contributions has enabled a high repayment rate.



## Key risks

- Donor contribution represents roughly 20% of the income of the model (with the aim of 11% by 2020). Given current scaling ambitions, 1AF will have to grow its total sum of donor funding while significantly increasing its efficiency.
- 1AF is committed to measurable impact on the poorest smallholders in Africa. They prioritize maximal impact relative to cost, rather than to drive to 100% financial sustainability, as the latter may require reaching upmarket to serve less poor farmers. This approach limits their ability to reduce the amount of donor funding.
- Maize is an annual crop that is highly vulnerable to weather changes and illnesses. Productivity varies yearly due to external conditions. Diversification is important to enable farmer resilience in the long term.



## Opportunities for improvement

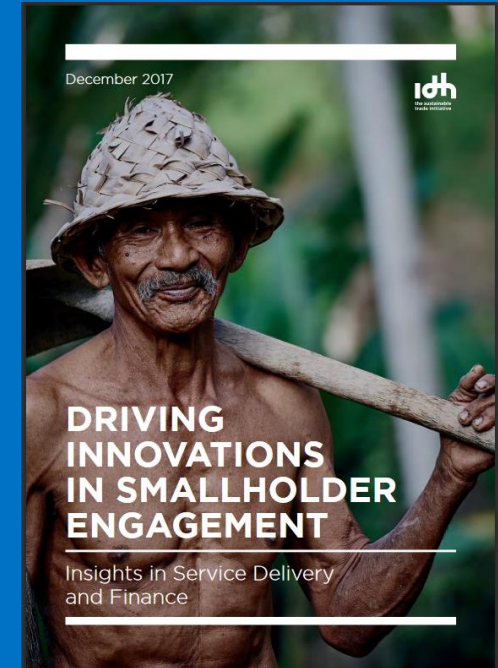
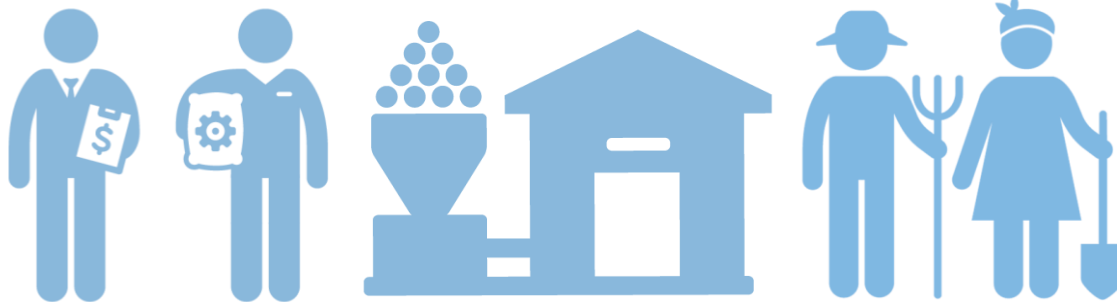
- Efficiency is key; 1AF strategy is to have as many clients per Field Officer as possible in order to drive down the cost per farmer. To do this, 1AF is refining/rationalizing site boundaries to keep Field Officers focused on increasing penetration.
- 1AF hopes to gradually improve the transaction size per client both by widening the product offer and potentially entering new territory where customers want to purchase more acreage.
- 1AF is also constantly testing new products and looking for new ways to create impact on farm level. Trials for both product and scale innovation open a wide space for new products that can result in higher productivity for farmers.



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For more information, see the [IDH Smallholder Engagement Report](#). This report, gathered by analyzing over 30 individual SDMs in 16 countries, provides insights into IDH's data-driven business analytics. The findings identify drivers of farmer resilience, cost reduction and financial sustainability in service models and the conditions needed for a supporting enabling environment.